AXUS Microsystems Inc.

# DemonNAS™ Filer for Business 2.0

# User's Guide

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# Chapter 1. About DemonNAS Filer for Business 2.0

With the rapid expansion of the net and ever increasing numbers of Internet users, requirements for storage space are also exploding. **DemonNAS Filer for Business** offers a stable and efficient storage solution with an easy-to-use interface. Even non-technical staff will have no trouble installing and configuring the server.

## Specifications

| **Network Types／Network File Systems／Protocols／Clients** |
|---|
| Microsoft network／CIFS, SMB／TCP/IP／Windows 98, ME, NT 4.0, 2000, XP |
| UNIX network／NFS v2.0 & v3.0／TCP/IP／Red Hat Linux, Solaris, FreeBSD |
| Apple Macintosh network／AFP／AppleTalk, TCP/IP／Apple Macintosh 7.x, 8.x, 9.x, OS X |
| **Domain Integration** |
| Microsoft Windows 2000 ADS |
| Microsoft Windows NT 4.0 domain |
| UNIX NIS domain |
| **Software RAID** |
| RAID 0 |
| RAID 1<br>RAID 5 |
| RAID 5 with Spare |
| **Availability/ Reliability** |
| DOC/DOM/CF support |
| Boot From Any Drive (Disk Version) |
| IDE Hard Disk Hot Swapping & On-line Rebuilding |
| Power Supply / System Fan Fail-over Support<br>Hardware (thermal, ECC, HDD, Fan, Power Supply...) Monitoring, Auto-notifications, and Logging |
| UPS support (Through Serial Port & SNMP Trap) |
| **Manageability** |
| Up to 8 TB File System Support |
| Volume Manager– used to create/modify/repair volumes |
| SNMP MIB II Support |
| DemonNAS Filer Assistant 2.0 for Windows and Mac platforms– to search, setup the IP addresses of DemonNAS Filer, map network drives, and view the server status |
| DemonNAS Filer Backup 2.0– to backup DemonNAS Filer through the network. Supports multi-level (System Information, User Information, Data and Specified Volume/Shared folder) backup, incremental backup, and scheduled backup. |
| Local Tape Backup Support - to backup DemonNAS Filer to the local tape drive. |
| File Level ACL (Access Control List) Support for Windows, Mac, and UNIX clients |
| New Log Mechanism - rotate-able, sort-able, download-able, and more understandable. |
| Network Time Protocol (NTP) Support |
| **Performance** |

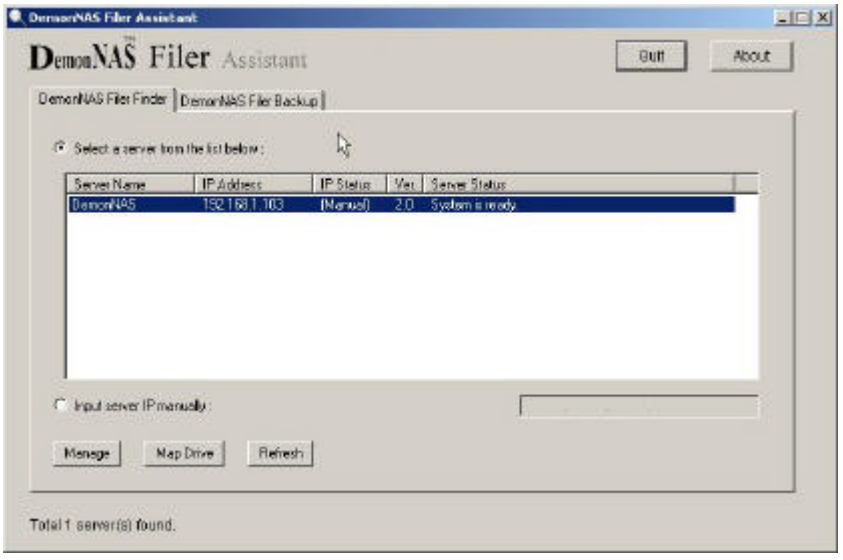
| |
|---|
| RAID 5 Device Layer Cache Support – removes I/O bottlenecks and greatly improves file access performance . |
| 10Mb/100Mb/ 1 Gb Ethernet Teaming/ Fail-over/ Multi-subnets Support – to removethe network bottleneck and greatly improve the performance. |
| **Compatibility** |
| Unicode Account/Group/Shared Folder /File/Folder Names Support |
| Japanese Machine Dependent Characters Support |
| HTTP support – allows users to have remote access to files in the server through the Internet (HTTP protocol). |
| FTP support – allows users to have remote access to files in the server through the Internet (FTP protocol). |
| **Other Features** |
| DemonNAS Data Replicator – offers automatic, near real-time, easy , and secure backup from Windows clients to DemonNAS Filer. |
| Traditional Chinese, English, German, French, Italian, Spanish, Simplified Chinese, Japanese, Korean |

# DemonNAS Filer for Business Resources

## DemonNAS Filer Utility CD

This CD provides two utility programs: **DemonNAS Filer Assistant** and **DemonNAS Data Replicator** .

### DemonNAS Filer Assistant



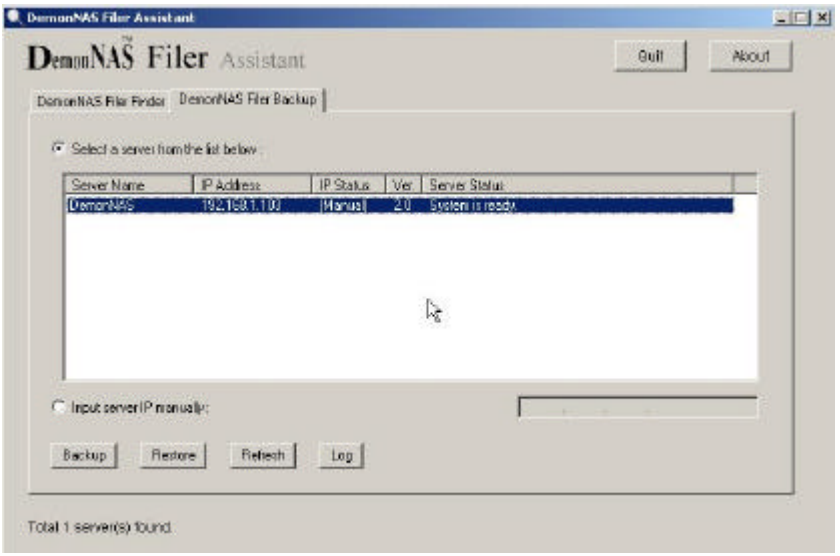

**DemonNAS Filer Assistant** integrates **DemonNAS Filer Finder** and **DemonNAS Filer Backup** in one Windows program. **DemonNAS Filer Finder** is designed for the system administrator and all Windows clients on the LAN, and **DemonNAS Filer Backup** is designed for the system administrator

only.

## DemonNAS Filer Finder

The system administrator can use **DemonNAS Filer Finder** to search and setup the IP addresses of all NAS servers running **DemonNAS Filer** on the LAN. Windows clients can also install this program on the desktop, so that they can easily login to **Storage Manager** to change personal information, and connect all privileged shared folders on the NAS server as network drives.[1]

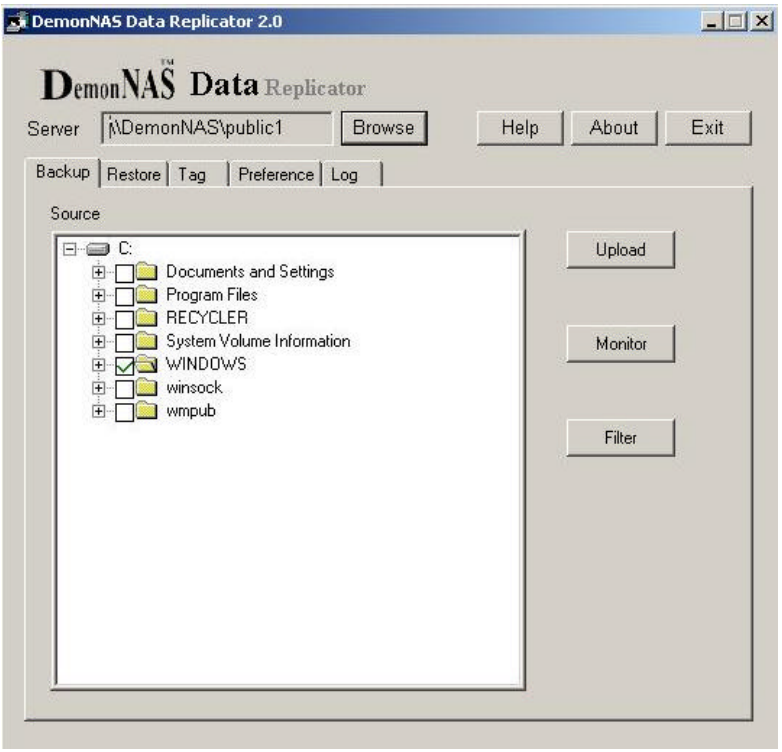
## DemonNAS Filer Backup




The system administrator can utilize this backup program to backup data from the NAS server to other designated locations, or to restore previously backed up data back to the NAS server.

[1] DemonNAS Filer Assistant comes in Windows version, Mac OS 9 version, and Mac OS X version. About using the Windows version, please refer to Chapter 2 "Setting up the NAS server"; about using the Mac OS 9 and Mac OS X versions, please refer to Appendix 7 "Using DemonNAS Filer Assistant on Mac OS".

## DemonNAS Data Replicator




**DemonNAS Data Replicator** provides use for all Windows clients on the LAN.

Windows clients can use **DemonNAS Data Replicator** to monitor file folders on computer, make immediate backup of specified file folders to NAS server, making it easy for restoration of backup files from server to client computers, files backup, management and protection.

# DemonNAS Filer for Business User's Guide

The **DemonNAS Filer for Business** User's Guide contains a description of the product and step-by-step instructions on how to use **Storage Manager** to configure the server. Please read this guide carefully before proceeding.

# Chapter 2. Setting up the NAS Server

After connecting the NAS server to a power cord and the LAN, power it up and use the **DemonNAS Filer Finder** tab of **DemonNAS Filer Assistant** to search for the NAS server and configure its IP address.

**TIP**

Setup procedure for the NAS server:

1. Connect the NAS server to the LAN, hard disks, and a power cord, and then turn it on.
2. Run **DemonNAS Filer Assistant** from any Windows client on the LAN and use the **DemonNAS Filer Finder** tab to locate and configure the NAS server's IP address. Once this is done, the utility will automatically open a browser window and connect to **Storage Manager** on the NAS Server (details below).
3. Use **Storage Manager**'s *Quick Configuration* to configure the basic options of the server (see chapter 3).
4. Use **Storage Manager** to configure the details of the server, including system configuration, user privileges, network and hard disks (see chapter 4).

## Before you start

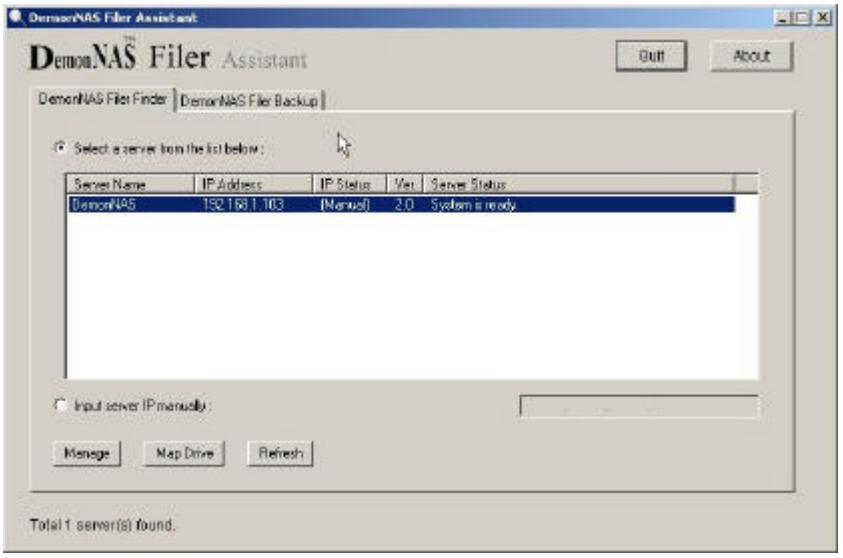
1. Please install hard disk to the NAS server.
2. When purchasing diskless model that supports DOC/DOM, please install at least one hard disk before turning on the server.
3. Connect the NAS server to the LAN. Turn on the server.
4. Make sure the client terminal used to configure the NAS server is installed with Microsoft Internet Explorer 5.0 or higher, and make sure this computer and the NAS server can be connected through physical network medium (e.g. hub, switch, etc.).
5. Set the resolution of the client terminal screen to 1024*768 or higher.

## Setup

1. Choose a computer with a network connection running Microsoft Windows 98/ME/NT/2000/XP and a browser version above IE5.0 installed.

2. Insert the **DemonNAS Filer Utility** CD in the CD-ROM drive. In most systems, **DemonNAS Filer Assistant** starts automatically. If it doesn't start, please run the "SFAssistant.exe" program manually.

3. **DemonNAS Filer Assistant** will automatically search and list all NAS servers running **DemonNAS Filer** on the LAN. The *Server Status* column will show current status of the server. When the message *System is ready* is shown in this column, you can begin your setup.




Suppose you want to set up a server called *NAS001* for the first time. By default the system obtains the network configuration information through the DHCP server. If the DHCP server does exist on the LAN, its *IP Status* will show *DHCP*, referring that the NAS server has correctly received IP from DHCP server. Please double click server *NAS001* or click the *Manage* button, and **DemonNAS Filer Assistant** will automatically invoke the browser, connect to the server's IP address, and then start the *Quick Configuration* option of **Storage Manager** for the system administrator to setup basic information such as server group, system access, and network group, etc. (for details please refer to Chapter 3).

If there is no DHCP server on the LAN, or the client that runs **DemonNAS Filer Assistant** and the NAS server do not belong to the same subnet, the *IP Status* column will show *Unknown* instead.

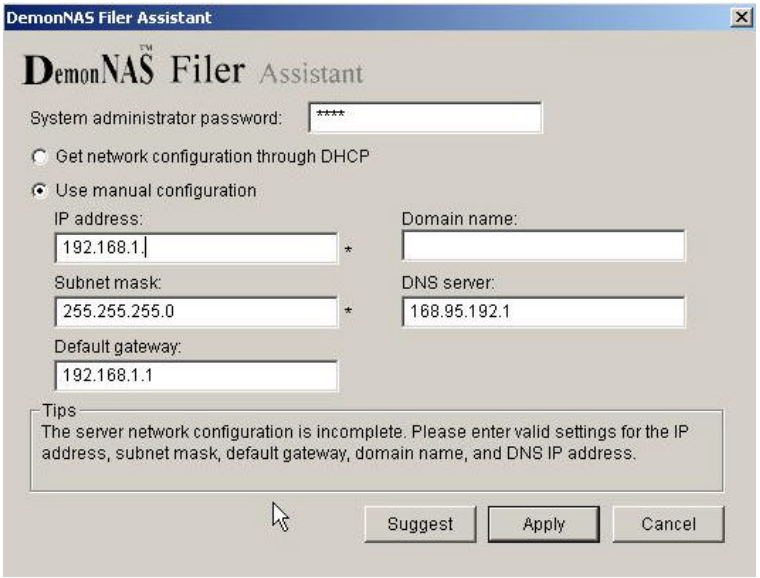
**TIP**

If the NAS server supports more than one network card, **DemonNAS Filer Assistant** will show only one of the network cards for system administrator to setup. If you want to setup other network card (s), system administrator must perform further setup in **Storage Manager**.

**DemonNAS Filer Assistant** display rules as follows:

1. The first time you setup the NAS server, **DemonNAS Filer Assistant** will display the first network card of the server. If there is a DHCP server the "*IP Status*" will show "*DHCP*". If there is no DHCP server, then the "*IP Status*" is "*Unknown*", and the "*IP Address*" is "*??.??.??.??*".
2. If system administrator has already used **Storage Manager** to assign IP addresses to (multiple) network cards on the server and made them belong to different subnets, then **DemonNAS Filer Assistant** will show the network card that belongs to the same subnet with the client computer that runs **DemonNAS Filer Assistant**.
3. If there is no network card in the NAS server that belongs to the same subnet as the client computer that runs **DemonNAS Filer Assistant**, then **DemonNAS Filer Assistant** will show the first network card of the server and the *IP Status* will show *Unknown.*

4. Double-click on the server name *NAS001* to open the network configuration screen.




5. If your LAN includes a DHCP server, select *Get Network Configuration through DHCP* to automatically configure the network through the DHCP server. If there is no DHCP server available, or you prefer manual configuration, choose *Use Manual Configuration* and enter an IP address,

domain name, subnet mask, gateway, and DNS server. The setup program will grab the network configuration of the client for administrator's reference (The only way to obtain the user's network configuration in Windows NT/2000/XP is to log on Windows with the administrator ID.). If this information is not enough, choose *Suggestion*; the setup program will check available IPs on the LAN and provide a suggested IP address.

**TIP**

DNS helps you find the IP address of the domain name. Be sure to input correct DNS server in the field so that the Email notices from the system can reach the administrator's mailbox.

6. Input *System administrator password*. The first time a password is requested, enter the default password; if none exists leave this field blank.

7. Click *Apply* to confirm. The program will automatically invoke the browser and connect to the server's IP address, then start the *Quick Configuration* option of **Storage Manager** (see chapter 3).

**TIP**

DHCP (Dynamic Host Configuration Protocol) is a network protocol for automatic IP assignment. If your network does not include a DHCP server, you must enter the network configuration manually.

If the search or configuration fails, please verify the following details before trying again:

1. Make sure you have selected the correct server.

2. Make sure the server is connected to the LAN.

3. Make sure the server is connected to a power source and is turned on.

4. Make sure the LAN still has available IP addresses.

5. Make sure the manually entered network settings are correct.

6. Make sure the client terminal you are using has successfully installed/set the TCP/IP protocol, and is running Microsoft Internet Explorer 5.0 or higher.

7. Make sure the NAS server and the client computer that runs **DemonNAS Filer Assistant** can be connected through physical network medium (e.g. hub, switch, etc.).

8. Any previous version of **DemonNAS Filer Assistant** cannot search for

and setup **DemonNAS Filer for Business 2.0**. Please make sure you are using **DemonNAS Filer Assistant 2.0**。

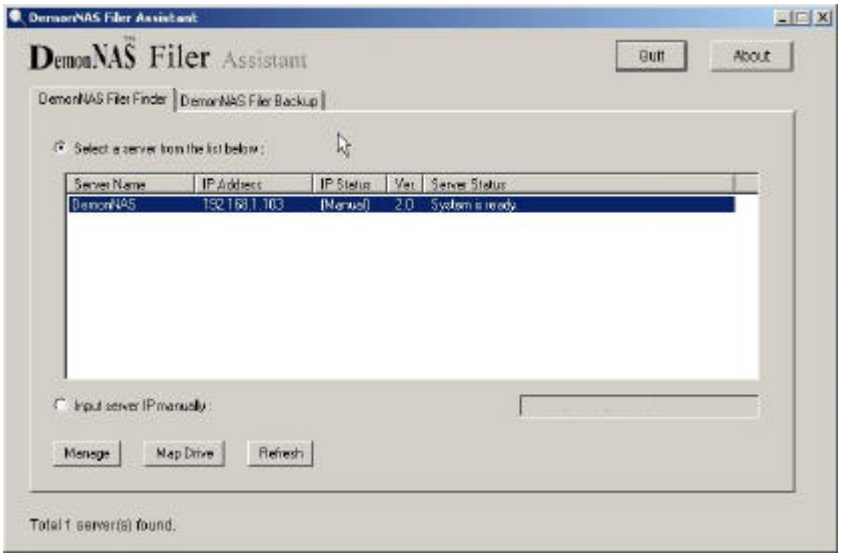
9. The firewall function of some firewall or anti-virus software will cause failure for the **DemonNAS Filer Assistant** to find **DemonNAS Filer for Business** servers. Please disable the firewall or anti-virus software and try again.

**TIP**

**DemonNAS Filer Assistant** only supports one network adapter for each computer to search the NAS servers on the LAN correctly. If there is more than one network adapter installed on the computer running **DemonNAS Filer Assistant**, please only keep one.

# Input server IP manually

For the NAS server running DemonNAS Filer that is on a different network environment from the Windows client who runs **DemonNAS Filer Assistant**, if it has a valid external IP, the system administrator can enter the IP of the NAS server in the "Input server IP manually:" field and then click the *Manage* button to manage the NAS server remotely.



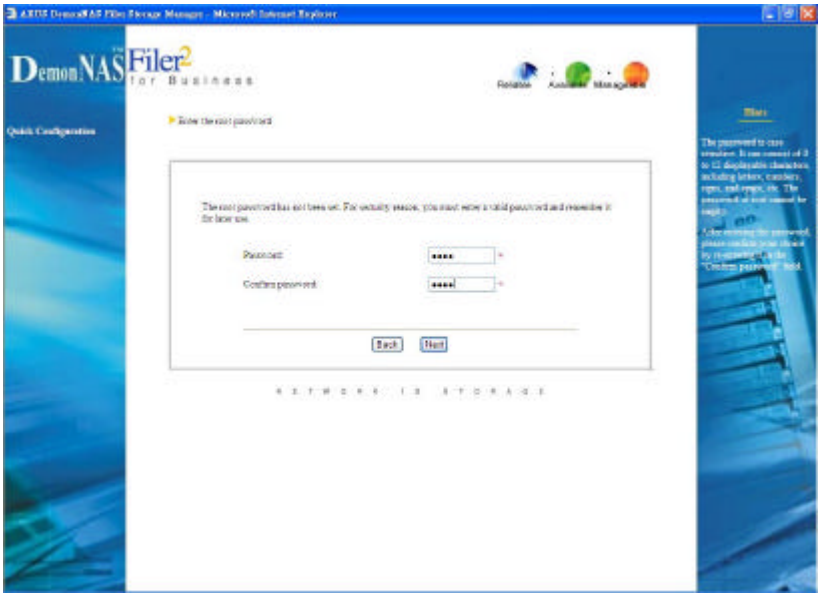
# Chapter 3. Quick Configuration

**DemonNAS Filer for Business** offers a simple and easy-to-use approach to NAS administration called **Storage Manager**. Use this program to configure the server, system and network parameters, including Windows, UNIX, and Apple Macintosh network settings, as well as the hard disk configuration.

When you first install the NAS server, **DemonNAS Filer Assistant** will complete the IP configuration of the server and then automatically open a browser window to connect to the server. The *Quick Configuration* page with basic configuration options will appear.

| TIP |
| --- |
| 1. During setup, watch the tips on the right hand side of the browser window or refer to this user's guide for more information. |
| 2. This system only supports Microsoft IE 5.0 browsers or above. Netscape or other browsers are not supported. |

## Enter the *root* password




Since this is the first time using this system, the system will prompt for changing the default *root* (system administrator) password. Make a note of this password for future access to the NAS server.

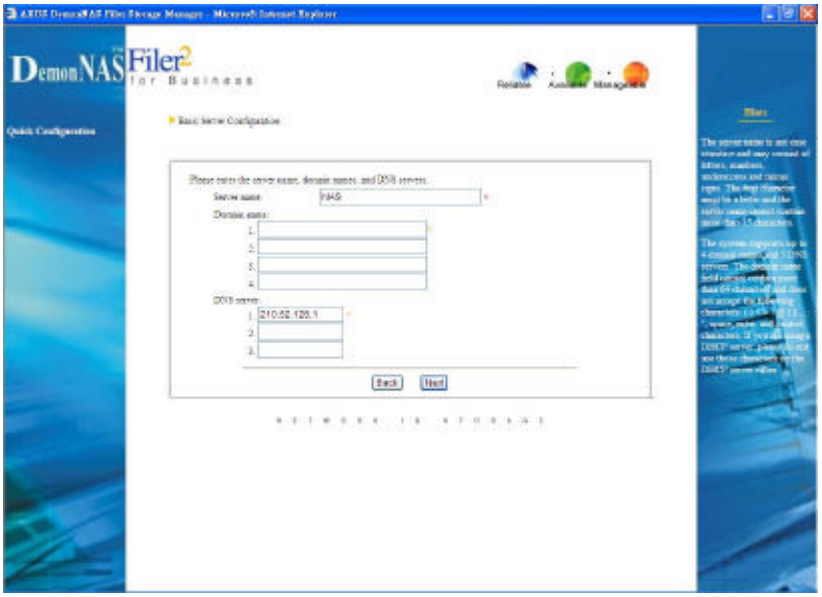
**Tip**

The root password is very important in NAS server management. The Administrator must memorize this password. Should the password is lost, the NAS server should be shipped back to the dealer for reinstallation. In that case, all the data on the server will be lost.

The password is case sensitive, and up to 12 displayable characters can be entered, including letters, numbers, signs, and space, etc. However, the password of root can not be empty. After entering the password, please confirm your choice by re-entering it in the Confirm password field.

# Server Configuration

## Basic Server Configuration




System administrator can change the default server name here and further configure the network settings.

First you have a chance to change the preset server name . Please note that the server name must be unique, meaning that no other server in the network should have the same name. The name is not case-sensitive and cannot exceed 15 characters. The first character must be a letter; the other characters can be letters, numbers, the underscore or minus sign.

This system supports up to four domain names and three DNS servers. The length of the domain name cannot exceed 64 characters. When getting network configuration through DHCP server, if DHCP server has already created multiple domain names and DNS server setup, this page will capture

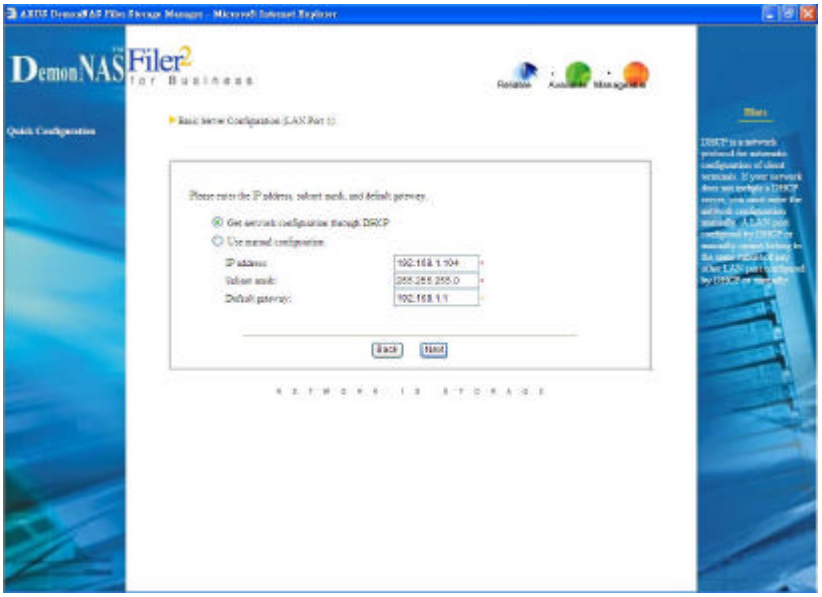
the first item from the DHCP server. The system administrator must specify other items manually.

**TIP**

The domain name field does not accept the following characters. If you are using a DHCP server, do not use these characters on the DHCP server either:

(, ), <, >, @, \, [, ], , , ;, :, “, space, enter (/n) and control characters.

# LAN Port 1




Next, please setup the IP address of the first network card. This page will show the setup information previously defined in **DemonNAS Filer Assistant**, and system administrator can make additional change here.

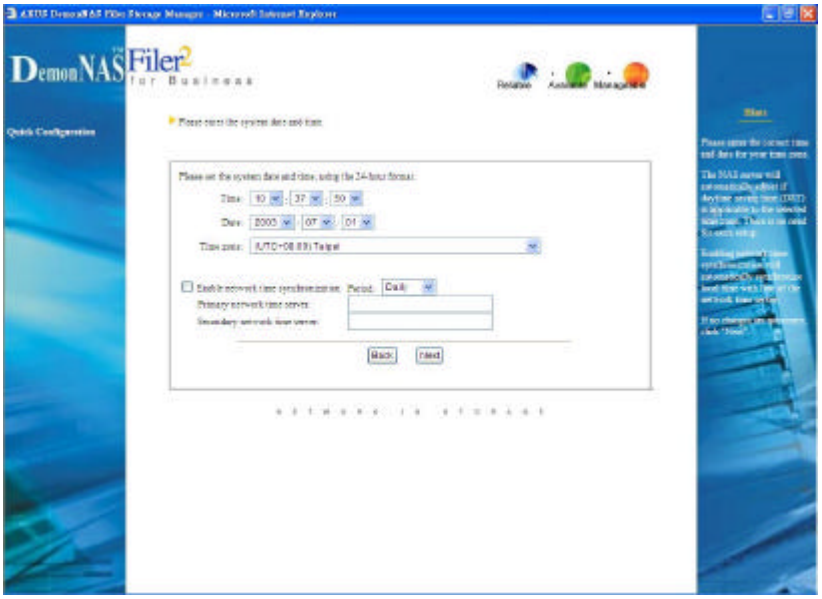
If the LAN includes a DHCP server, click *Get network configuration through DHCP*. Otherwise, choose *Use manual configuration.* and fill out the related setting, Filling out the column with a red star sign on the right is mandatory, while filling out the column with the orange star is recommend by the system.

Please note:

For the administrator to be able to remotely log in the NAS server or the users log in the *Web Browser* page through the Internet (HTTP), please enter a valid external IP in the *IP address* column.

If the NAS server supports more than one network card, please go to *Server Configuration→ Basic Configura tion* after completion of *Quick Configuration* to continue setup of other network cards.

# Enter the system date and time

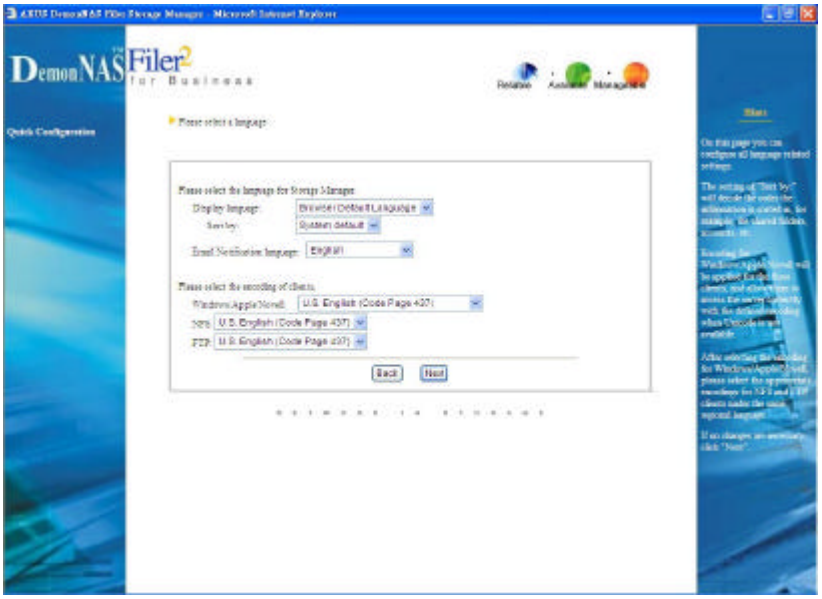



Use a 24-hour format to enter the system date and time, as well as the correct time zone.

The NAS server will automatically adjust if daytime saving time (DST) is applicable to the selected time zone. There is no need for extra setup.

To activate network time synchronization, please choose *Enable network time synchronization*, in the *Period* pull down menu, choose the appropriate period, and then fill out the hostname or IP in the *Primary time server* field. If a spare time server is available, fill out the hostname or IP in the *Secondary time server* field. When the primary time server is not able to operate, the NAS server will try to synchronize the time with the secondary time server.

# Select a language




You can perform all the language settings on this page. Please choose a display language for **Storage Manager,** event notification emails, and the code page for different kinds of client.

In *Display Language* column, when selecting *Browser Default Language,* **Storage Manager** will automatically display the same language as the browser of the client when system administrator or general user is connected to **Storage Manager**.

For some languages at least 2 sorting methods are available for the administrator to choose. The sorting method is used to sort information on **Storage Manager**, such as shared folders and user accounts. The sorting method can be chosen from the *Sort by:* pull-down menu.

Encoding for Windows/ Apple will be applied for the three clients, and allow them to access the server correctly with the defined encoding when Unicode is not available. After selecting the encoding for Windows/ Apple, please select the appropriate encoding for NFS and FTP clients under the same locale language.

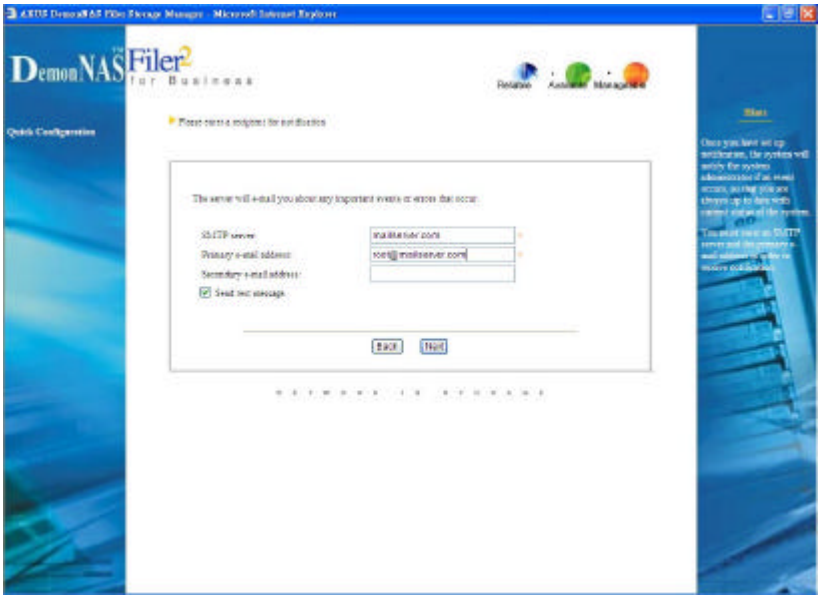
Once *Quick Configuration* is complete, **Storage Manager** will use that language. If you do not know the correct code page of your Windows client, enter the command "*chcp*" in the command prompt and press *Enter* to retrieve the correct code page information.

Note: Inconsistent encoding settings between the system and the clients will result in problems on accessing the data. The system encoding must be the same with that of the clients.

**TIP**

If the administrator set a single-byte language (code page), such as English or Multilingual, for Windows clients, an error will occur when the client attempts to save double-byte files or folder names (e.g. Traditional Chinese) on the NAS server, and some files cannot be deleted once saved. In this case, the system administrator must use the *Server Configuration→Language Setup* to change the code page to double-byte encoding; only then can the file be properly accessed and deleted.

# Enter a recipient for notification

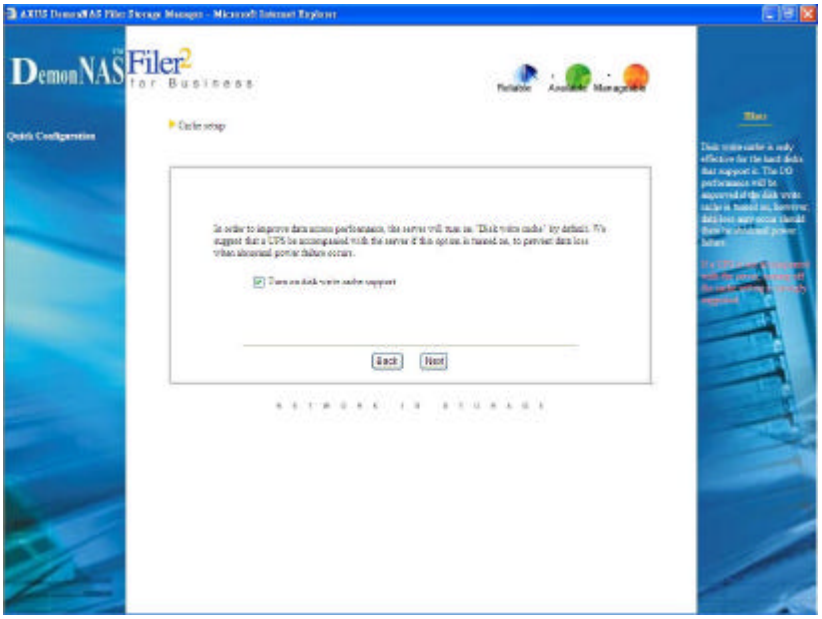



**DemonNAS Filer for Business** can notify the system administrator of important events per e-mail. Enter a *SMTP server* and the *primary e-mail address 1*. When an important event occurs, the system administrators will be informed via e-mail and can respond immediately, thus ensuring system safety. You have the option to *send a test message after setup* to make sure you have entered a valid configuration.

Due to the excessive amount of junk mail pervading the Internet, many providers do not allow their SMTP servers to be used by outside users. We therefore strongly recommend using the SMTP server of your e-mail domain (the address 1, address 2). E.g., if you use *root@abc.com*, select the SMTP server belonging to this provider, for example *mail.abc.com*.

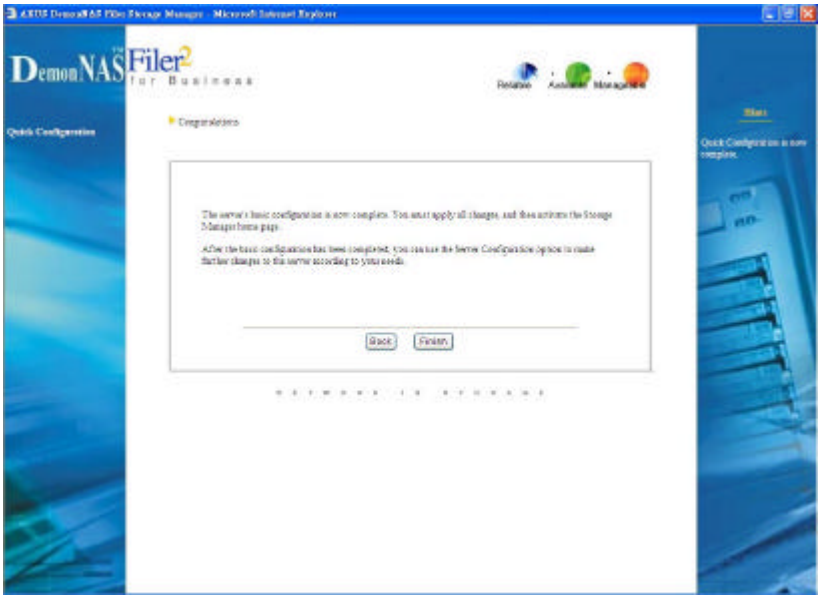
Note: if you enter the host name (e.g. mail.abc.com) of the *SMTP server*, instead of the IP address (e.g. 192.168.1.1), please also enter the DNS address to ensure the notification emails will be sent to right administrators.

# Cache setup




In order to improve data access performance, you can select to turn on "Disk write cache" support on this page. It is suggested that an UPS is accompanied with the server if this option is turned on to prevent from data loss when abnormal power failure occurs.

# Completing Quick Configuration



Once you have completed the *Quick Configuration*, the server should operate properly on the LAN. Click *Finish* to apply all settings and open **Storage Manager**.

If you need to make further modifications after you have comp leted *Quick Configuration*, use the *Server Configuration* option described in Chapter 4.

# Chapter 4. Using Storage Manager

After the *Quick Configuration* is complete, **DemonNAS Filer for Business** will open the web-based **Storage Manager** program, where the system administrator can further edit the settings of the NAS server.

**TIP**

1. **Storage Manager** does not include a *Back* option, but lists all of the configurable items on the left-hand side of the browser window. When you are done with one screen, simply select the next item you wish to configure from the list on the left.
2. If no entries occur in **Storage Manager** for *15* minutes, you will automatically be logged out, and will have to log in again to continue.

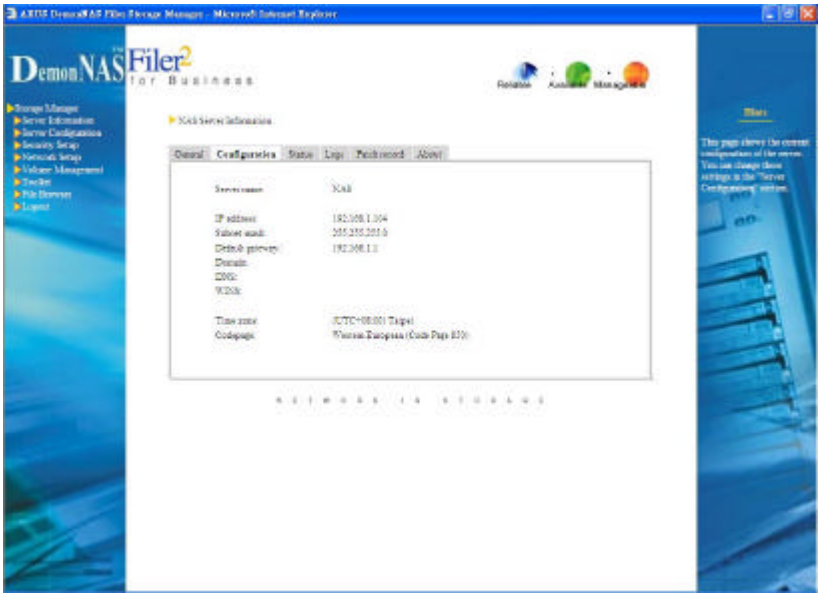
## Server Information

Here you find information about your server:

1. *General*: Shows system version and manufacturer information.

   b

2. *Configuration*: This page shows the current configuration of the server. You can change these settings under *Server Configuration.*



3. *Status*: This page shows the current operation status of the server, including the frequency of ECC errors, temperature, network port (s), fans, power supplies, and hard disk usage. If an error occurs on the server, such as a memory error, high temperature, network card malfunction, fan malfunction, power supply malfunction, or hard disk failure, the information on this page will be immediately updated, and a notification message will be sent via e-mail to the system administrator.

Moreover, when the hard disk is at "*Damages in system area*" or "*With bad sectors*" status, you can check the bad sector details of the hard disk by moving the mouse over the hard disk graphics on this page. When bad sectors occur on the hard disk, **DemonNAS Filer for Business 2.0**

provides a Dynamic Bad Sector Recovery (DBSR) mechanism by reserving a space on each partition of the hard disk for mapping bad sectors when bad sectors are hit and recovering data in the future, so the file can be protected against access failure.

i、 Bad sector mapping: If a HDD bad sector is hit when writing data to an existing simple/span/RAID0/RAID1/RAID5/RAID5+spare volume, the bad sector will be automatically mapped to the reserved space. Any request for the data in the future will be redirected to the mapped space.

ii、 Bad sector recovery: On a RAID1/RAID5/RAID5+spare volume, if a HDD bad sector occurs on an existing data entry, when reading the data, the system will still generate the correct data by calculating the RAID1 consistency or RAID5 parity from other disk(s) and map the data to a reserved space. Any request for the data in the future will be redirected to the mapped space.

**TIP**

**DemonNAS Filer for Business 2.0** provides the following 2 hard disk graphics to represent the difference when bad sectors occur on different partitions:

This graphic appears when bad sectors occur on data partition.

For the server model that doesn't support DOC/DOM/CF:

1. For the server model that doesn't support DOC/DOM/CF, the operating system is installed on the system partition, on which DBSR is not available, this graphic appears when bad sectors occur on the system partition, for at this time this partition will be marked as crashed.
2. In addition, when the reserved space to save mapped bad sectors on the swap partition is consumed to the limit, this graphic will also appear.

For the server model that supports DOC/DOM/CF:

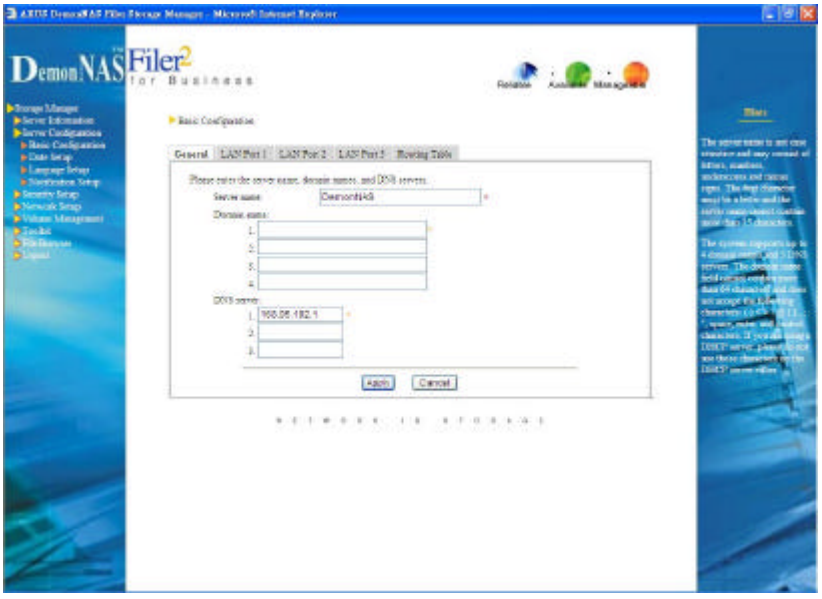
1. This graphic appears when the reserved space to save mapped bad sectors on the system partition or the swap partition is consumed to the limit.

4. *System log*: This page shows the system log, *Storage Manager log*, *the connection status log* and *Current connection.*

# Server Configuration

## Basic Configuration

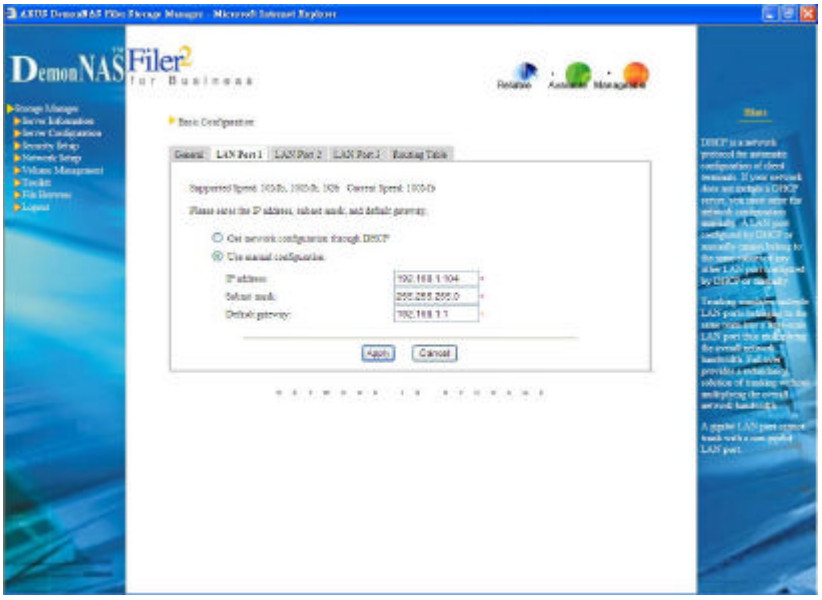
### General



System administrator can change general server information such as server

name and network settings. Please refer to the *Server Configuration→Basic Server Configuration* unit of Chapter 3 for setup methods.

## LAN Port 1




System administrator can change the setup of the LAN port 1.

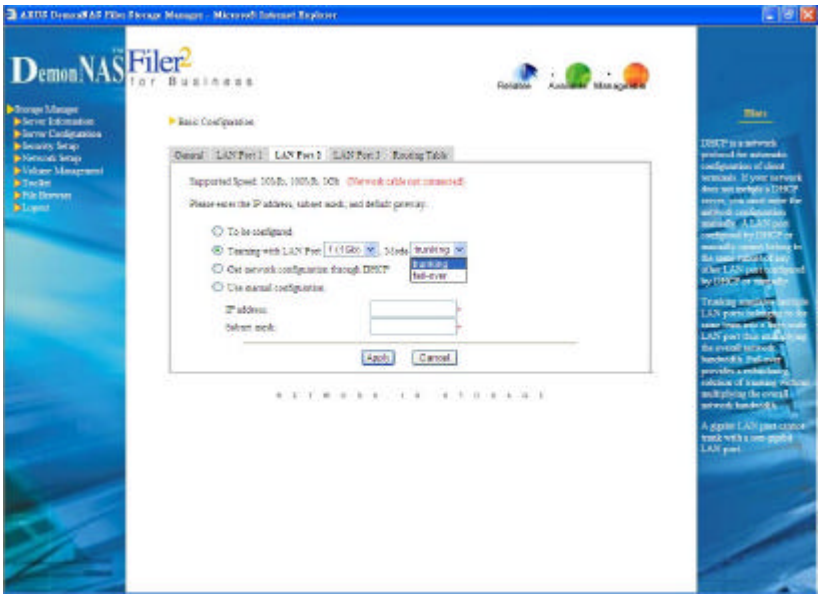
### Link Speed & Duplex

By default in the *Link Speed & Duple:* pull-down menu the server will choose an optimized mo de based on the circumstances then, however, the administrator can make different setting from the available options in this menu.

### Network Configuration

For ways of setting up, please refer to *Server Configuration→Basic Server Configuration→ LAN Port 1* of Chapter 3.

# LAN Port 2 & LAN Port 3




If system detects more than one network card in the NAS server, this page will automatically display *LAN Port N* tab to enable setup. "N" represents the id number of the LAN port in the NAS server.

System administrator can add this LAN port to other LAN port(s), and there are two ways to do so.

## Trunking

The first way is called "Trunking" or "Link Aggregation", it simulates multiple LAN ports belonging to the same team into a large-scale LAN port thus multiplying the overall network bandwidth. These LAN ports share the same IP. Should any LAN port fail, other LAN port(s) could still provide services. For example, if a NAS server shares two 100 Mbps Fast Ethernet LAN cards, through trunking the two cards into one, the bandwidth will expand to 200 Mbps. Should any of the network adapter(s) fail, other network adapter(s) in the same team will continue to serve. Please note that "Trunking" is only available when coupled with a switch supporting CISCO Fast EtherChannel (FEC). "Trunking" is only allowed on network adapters with the same bandwidth.

## Fail-over

The other way is called "Fail-over", it provides a redundancy solution. Should any LAN port fail, other LAN port(s) in the same team would take over its job and continue to provide services. Multiple network adapters with different

bandwidths can be teamed as "Fail-over". In this case the network adapter with larger bandwidth will be used as the master network adapter. Should the master network adapter fail, other network adapters will take over the service. The network adapters with broader bandwidth will take over first, and for those with the same bandwidth, the one that was joined in this team first has higher priority to take over the service..

## Multiple-subnets

Or, if a network has more than two subnets, system administrator can setup each network card separately into different subnet IP address to achieve the "Load Balancing" effect.

Please note:

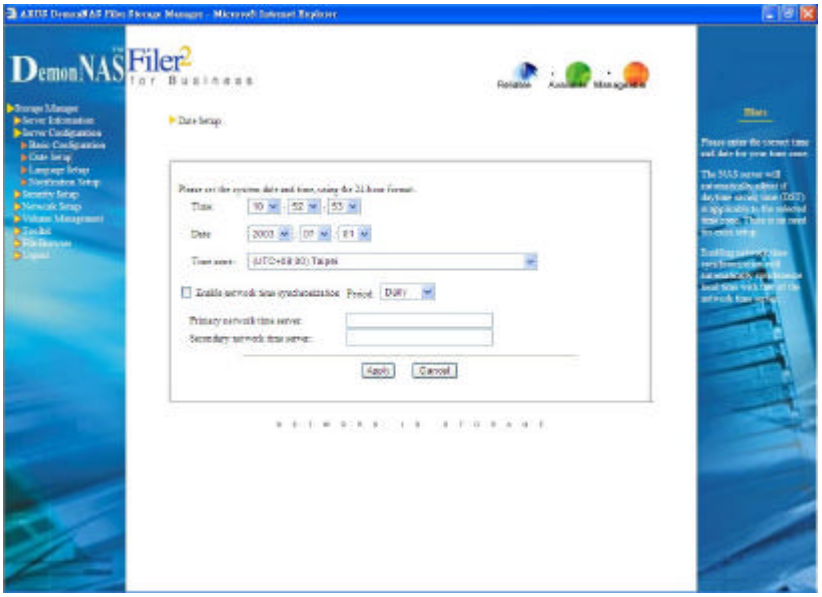
1. This system supports up to 3 network adapters and 3 subnets.

2. Besides "Trunking" or "Fair-over", each network card IP address in this system must be in different subnet, thus when choosing network type through DHCP please make sure if the subnet has any DHCP server available for use.

3. Network adapters allocated to the same team mu st be configured as the same mode. For example, when there are totally 3 network adapters on the NAS server and the first one and second one are teamed as "Trunking" mode, if the third network adapter is added to the team as "Fail-over" mode, all network adapters will switch to the "Fail-over" mode, regardless of their bandwidth.

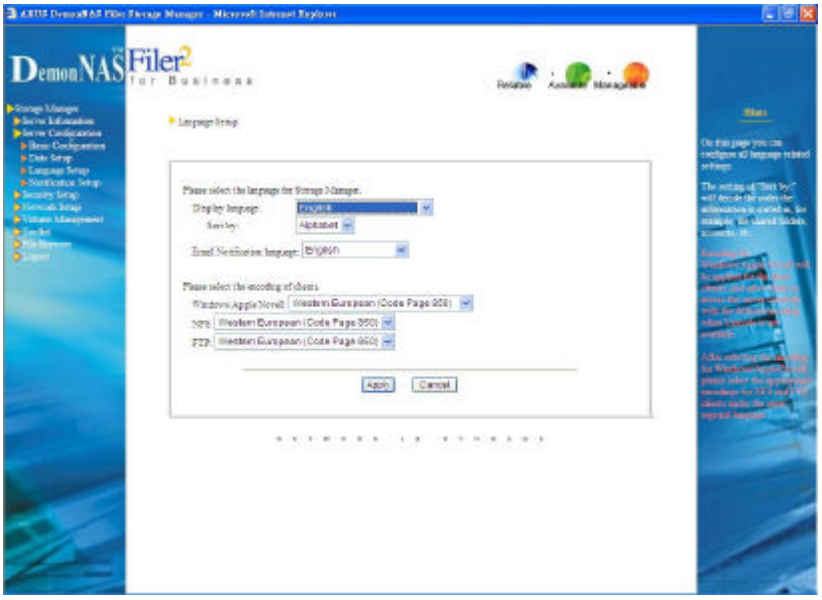
   When there are totally 3 network adapters on the NAS server and the first one and second one are teamed as "Fail-over" mode, if the third network adapter is added to the team as "Trunking" mode, there will be two possible outcomes. If these network adapters have the same bandwidth, they will all be switched to "Trunking" mode; however, if any of these network adapters in the team has different bandwidth from others, this action will be forbidden.

# Date Setup



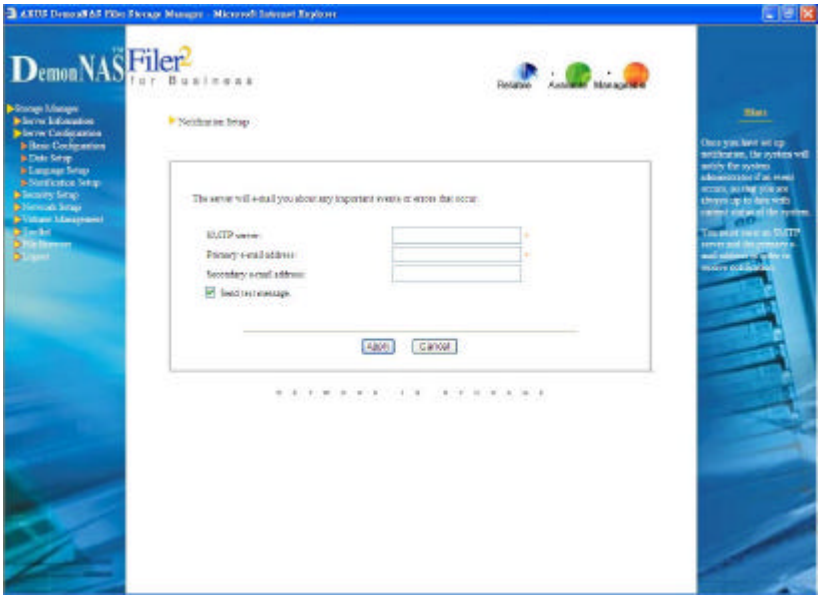
System administrator can change the time, date, time zone and network time synchronization setting of the NAS server. Please refer to *Server Configuration→Basic Server Configuration→Enter the system date and time* unit of Chapter 3 for ways of setup.

# Language Setup



System administrator can change language of **Storage Manager**, email notification, and encoding used by the client. For ways of language setup, please refer to *Server Configuration→Basic Server Configuration→Select a language* of Chapter 3.

## Notification Setup



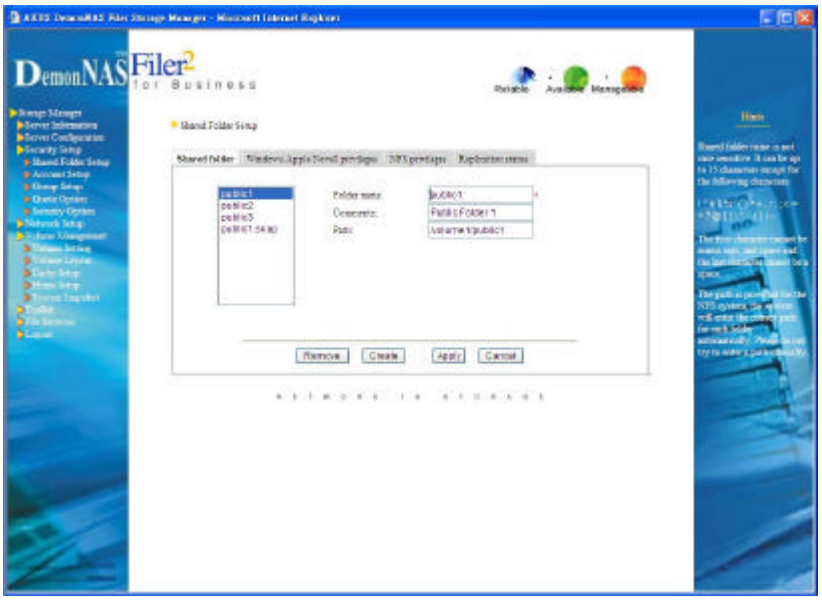
System administrator can change setup of event notification. For ways of setting up, please refer to *Server Configuration→Basic Server Configuration→Enter a recipient for notification* of Chapter 3.

# Security Setup

In this section the administrator can define users and user groups to access certain files and folders on the NAS server.

# Shared Folder Setup

## Shared Folder




The administrator can use this option to add, modify or delete shared folders.

Shared folder name is not case sensitive. It can be up to 15 characters except for the following characters:

! " # $ % ' ( ) * + , / : ; < = > ? @ [ ] \ ^ ` { } | ~!

Besides, the first character can not be minus sign, and space and the last character can not be space..

Please note:

> **DemonNAS Filer for Business** allows up to 64 shared folders, not including the home folders of *users* group accounts.

## Default shared folders

By default **DemonNAS Filer for Business** will create a shared folder named *publicn* on each individual volume, whereas *n* represents the disk volume. For example, if there are 4 volumes on a NAS server, the folders will be named *public1*, *public2*, *public3*, and *public4* respectively. However, if system administrator segments the NAS storage space into multiple volumes through

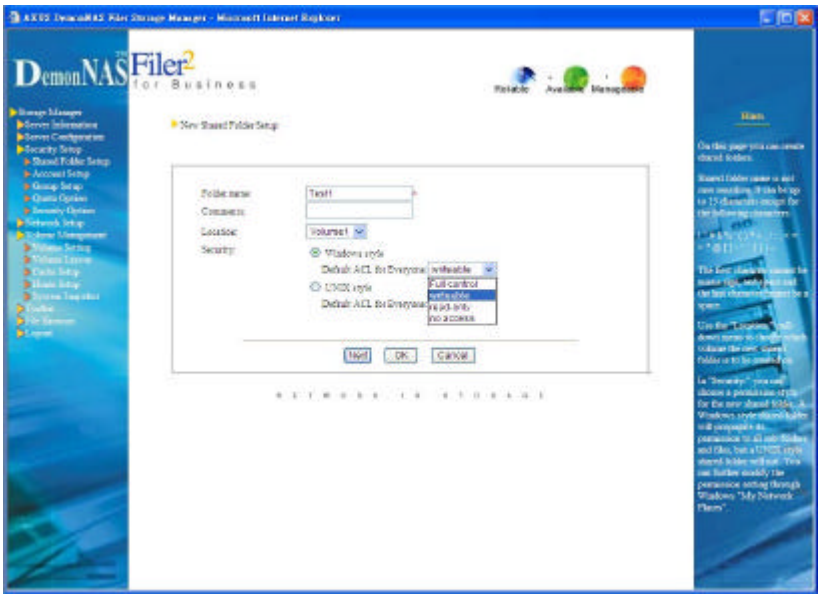
*Volume Management*→ *Volume Setting* of **Storage Manager**, then the system will automatically create a *publicn* shared folder for each volume.

The name, description, and path of this folder (*/volumen/publicn*) cannot be changed by the administrator. By default, any user logged into the NAS server has full read/write access privileges to this public folder. System administrator can change the user access rights of this shared folder through *Windows/Apple privileges* or *NFS privileges* tabs.

## Modifying a shared folder

On the left side you find the existing shared folders. Click on a folder name to display the information pertaining to this folder in the right windowpane. To rename the folder or modify its description, make the necessary changes on the right and then click *Apply*.

## Adding a shared folder




To add a folder, please follow the steps:

1. Click on *Create*. The *New Shared Folder Setup* page will appear.

2. Enter *Folder name* and *Folder description* fields for the folder.

3. If the system includes more than one volume, select a to-be shared folder for the new volume under *Folder Location :* .

4. Select *Window compatible* or *UNIX compatible* under *pre-set privileges*.

   Since there are different ways of creating user privileges under shared folder between Windows and UNIX operating systems; therefore, the options selected will have impact on the data files and subfolders' privileges setting in the future.

   If selecting *Window compatible*, privileges will be set as *Everyone controls* and all the data files and folders under this shared folder will inherit the same privileges setting. If selecting *UNIX compatible,* due to the restrictions of UNIX, only the **root** has privilege to **write.**

5. Complete the configuration, please press *Confirm* or *Next* to add a new shared folder.

After the shared folder is setup, it does not matter if the shared folder is *Window compatible* or *UNIX compatible*. All the users with proper privileges can press the right key on the shared folder under Windows' network neighborhood to reset the privileges.

**TIP**

When Windows 98 clients connect to the NAS server through Windows *My Network Places* or the Mac OS X clients through *Samba*, they can only access shared folders with as many as 12 characters, thus when sharing with these clients, the length of the shared folders should not exceed 12 characters.

## Deleting a shared folder

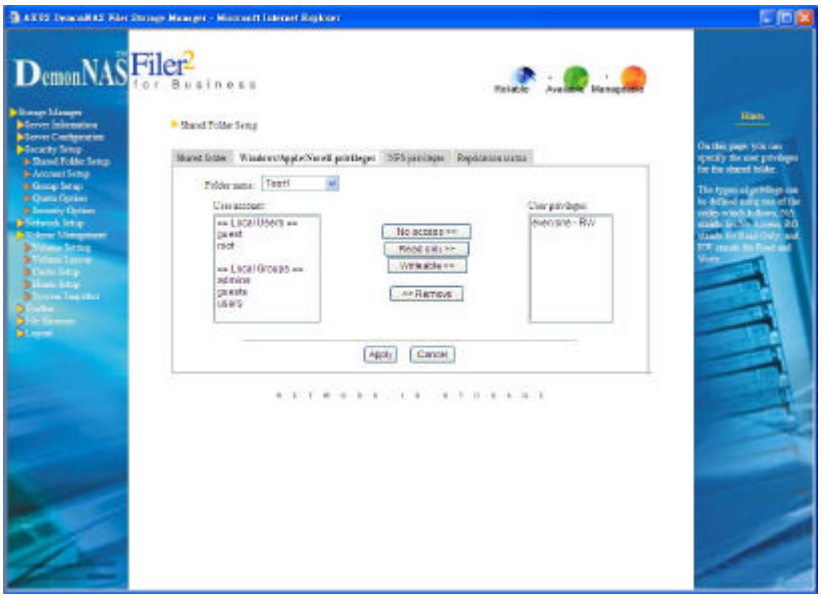
To delete a shared folder, select the desired folder (use Ctrl for multiple and Shift for continuous selection) in the list on the left pane, then click *Remove.* The default shared folders public*n* cannot be deleted.

## Shared folder paths

The option *Path* is only available for NFS and cannot be edited manually. The system will automatically enter the path "/volume*n*/Shared_Folder_Name" for each shared folder on the NAS server . For example, if you create a shared folder called *test* on a volume with RAID 5 on the NAS server, the system will automatically assign the path */volume1/test*. The administrator cannot change this default value.

Once the shared folder is created, the system administrator must use the *Windows/Apple Privileges* or *NFS Privileges* tab to choose users and their access privileges. All files stored in the shared folder will have the same privileges.

## Windows/ Apple User Privileges




The system administrator can use this setting to assign access privileges for local users /groups (i.e. Windows/Apple clients with accounts on the NAS server) and Windows domain users/groups. Use the mouse to choose a folder in the *Folder name* list, the *User privileges* column will show all the users or groups entitled to access the selected folder.

### Modifying User Privileges

To change existing user privileges, e.g. from *Writeable* to *Read only*, select the user whose privileges you wish to change in the *User privileges* column**,** then select *Read only* in the center column, and click *Apply* to confirm your selection.

### Adding user privileges

To add user or group privileges under a particular folder, please follow the steps:

1. Select a user or user group in the *User account:* column (use Ctrl for multiple and Shift for continuous selection).

2. Click on *No access, Read Only* or *Writeable*.

3. Press *Apply* to complete.

Please note, if this NAS server is added to the Windows domain, and (1) system administrator has previously added certain Windows domain user account to *Local account* or (2) there is an account in both NAS server and Windows domain with the same name, then the *User account* list on the left will not show the account number in *NT Domain Users* but only in *Local Users* to prevent system administrator from confusion caused repeated setup of access rights for the same user.

## Deleting User Privileges

To delete user or group privileges, please follow the steps:

1. Use the mouse to select a user or user group in the *User privileges* column (use Ctrl for multiple and Shift for continuous selection).

2. Then click *Remove.*

3. Press *Apply* to complete.

Please note that the setting will be separated into multiple pages according to the number of accounts. If the account you are going to perform does not appear on the page, please select the page number at the bottom of the page to go to other pages.

**TIP**

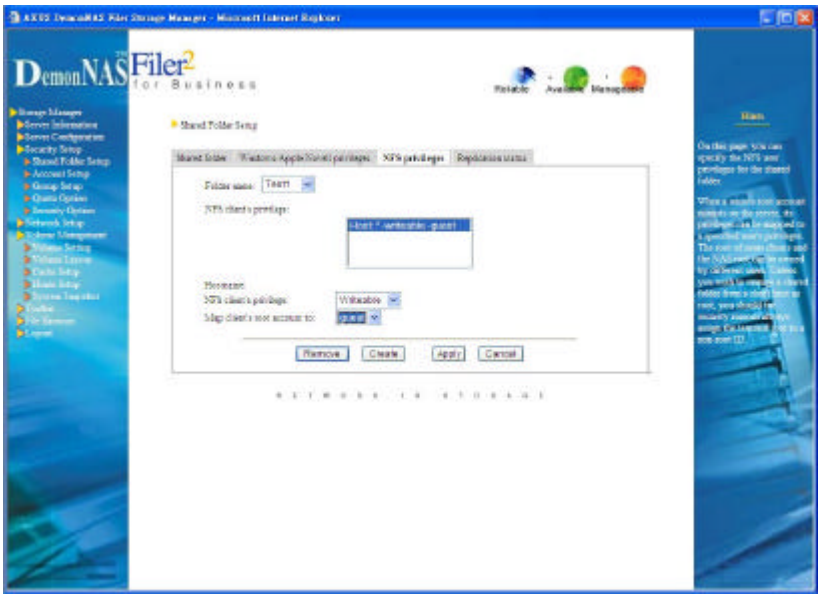
1. When setting Windows/Apple user privileges for the shared folders, make sure to avoid possible conflicts. *Root*, for example, is a member of the *admins* group. To avoid conflicts, you must not set the privileges for *root* to *read only,* while *admins* is set to *writeable*.

   In the event of conflicts in access privileges, the system will authorize users/groups in the following order: no access (*N/A*), readable and writeable (*RW*) and read-only (*RO*). For example, if the access privilege of the *root* account (belonging to the *admins* group) is set as "*N/A*" and that of the *admins* groups is "*RW,*" the access privilege of *root* for this folder will be "*N/A.*" If the privilege for *everyone* is set to *writeable* and the user *root* to *read only*, the system will assign *writeable* privileges to *everyone* as soon as you click *Apply*.

2. **DemonNAS Filer for Business** supports the ACL (Access Control List), i.e. users can click the right mouse button on a file and set the access privilege. Please refer to the last section of this chapter *Using Access Control List (ACL)* for details.

   The system administrator can use **Storage Manager**'s *Security Setup→Shared Folder Setup* page to set the access privileges for every shared folder.

# NFS Privileges




Use this option to set NFS (Solaris, FreeBSD or Linux and other UNIX family clients) access privileges for shared folders.

Enter the *Shared Folder Setup→NFS Privileges* page, and select the desired shared folder in the *Folder name* column. The *NFS client's privilege* column below will show the hosts and subnets or net groups with access privileges and the type of permission granted.

NFS client's privilege consists of three components:

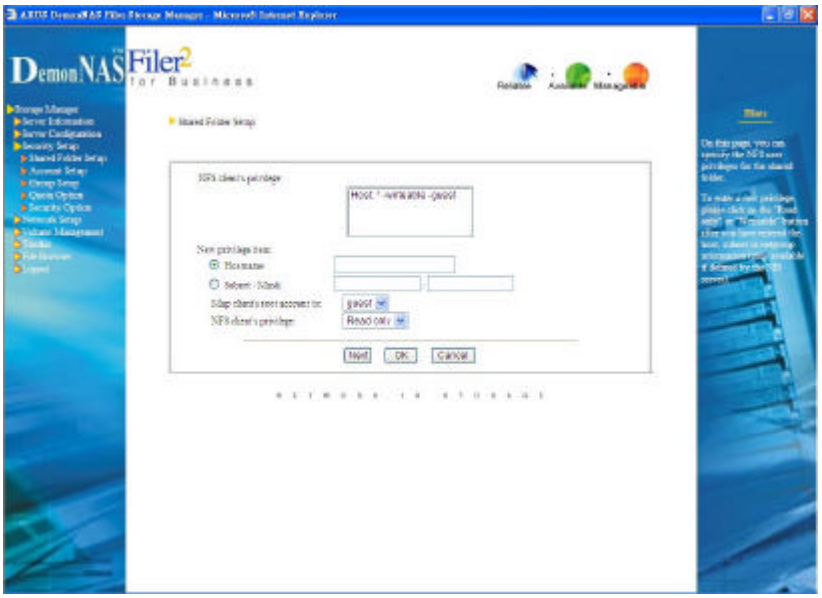
1. The first component is the subject sharing a folder, either a host, subnet, or a net group. The entry *Host:** means the folder is shared between all hosts.

2. The second component is the share mode, such as *read only* or *writeable*.

3. The third element is a local user name. The administrator root of a NFS client can only access the folder with this ID.

   The root of some clients and the NAS *root* can be owned by different users. Unless you wish to manage a shared folder from a client terminal as *root*, you should for security reasons always assign the terminal root to a non-*root* ID.

## Adding NFS user privileges




To add NFS user privilege settings, click on *Create*. A new page will appear. Enter the *hostname*, *subnet mask* (e.g. 192.168.1.0 / 255.255.255.0), or *net group* (only available if the NAS server joins the NIS domain). Under *Map client's root account to* column, choose a local user, and then set the *NFS client's privilege* to *read only* or *writeable*. Click *OK* to confirm your selection and return to the previous page, or click *Next* to add another client.

**TIP**

When setting user privileges for the NFS hosts, subnets or net groups, try to avoid possible conflicts. E.g., if host *A* belongs to net group *AAA*, do not set the access privilege of host *A* to read only while setting *AAA* to writeable.

Conflicts will be dealt with in the following manner:

1. If a single host setting conflicts with *Host**, the single host setting is used.
2. If a single host setting conflicts with the subnet setting, the single host setting is used.
3. When a single host setting conflicts with a net group, the entity which first received its user privileges has priority. If the net group *AAA* has already been set to writeable, you cannot later set the single host *A* to *read only*.

## Deleting NFS User Privileges

To delete the user privileges of a NFS client, select the desired item on *NFS client's privilege* column (use Ctrl for multiple and Shift for continuous

selection), and click *Remove*.

### Modifying NFS User Privileges

To modify existing privileges, select the desired item on *NFS client's privilege* column, remove it and add a new privilege.

**TIP**

This system software does not support "Telnet". The system administrator of the NFS client must use the *mount* command to point to the NAS server:

mount IP:/Shared_Folder_Path Mount_Point

Whereby *IP* is the IP address of the NAS server; *Shared_Folder_Path* is the folder to be shared with the NFS client, set to */volume#/*Shared_Folder_Name by default, and *Mount_Point* is set by the UNIX administrator.

E.g., if the system administrator wants to link */user1* to the *public1* folder of the NAS server (i.e. */volume1/public1*), and the IP address of the NAS server is 192.168.1.8, the command would be:

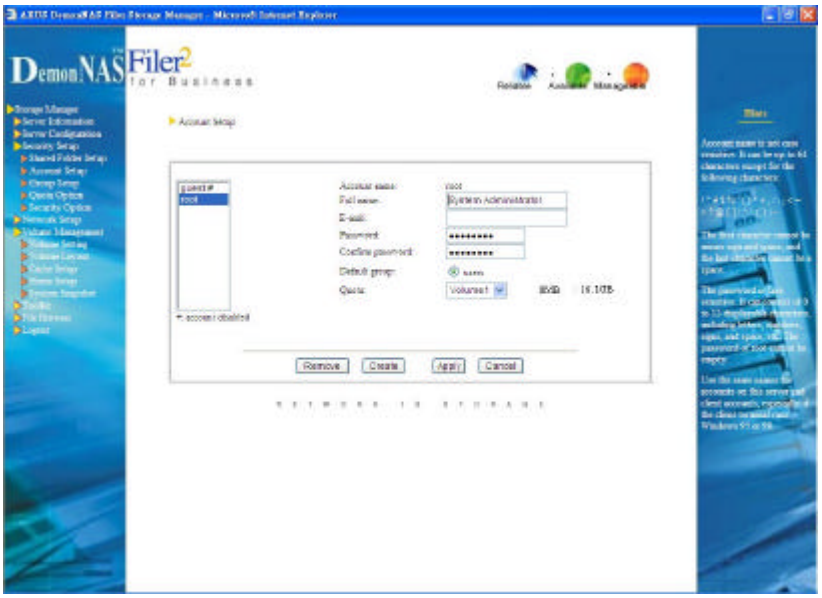
mount 192.168.1.8:/volume1/public1 /user1

## Account Setup

**DemonNAS Filer for Business** supports up to 20,480 user accounts (Including accounts on the local machine, Windows, and NIS server). Three types of users can access a NAS server:

1. Local users, with an account on the local machine.
2. Users with Windows domain accounts
3. Users with accounts on a UNIX NIS server

# Local Accounts




The system administra tor can setup accounts for Windows and Mac users on the NAS server (the local machine). When these clients attempt to access the NAS server, they only need to enter their account name and password to gain access.

The system administrator can add, modify and delete user accounts.

Account name is not case sensitive. It can be up to 64 characters except for the following characters:

! " # $ % ' ( ) * + , / : ; < = > ? @ [ ] \ ^ ` { } | ~

Besides, the first character can not be minus sign and space, and the la st character can not be space.

The password is case-sensitive and can consist of 0 to 12 displayable characters, including letters, numbers, signs, and spaces.

**TIP**

The passwords for some clients, such as Windows 98 clients are not case-sensitive while the passwords for other clients, such as Win NT/2000, UNIX, and Mac clients are. Therefore, please make sure the account passwords for the local machines are case-sensitive so that they will be suitable for all clients

Mac clients only allow passwords of up to 8 characters. Thus, when setting passwords for Mac clients on the NAS server, please limit the length of passwords to 8 characters or less.

## Default local accounts

There are two preset accounts on the server: *root* and *guest*.

1. *root*: This is the default account for the system administrator and belongs to both the *admins* and *users* group. As a first step in the server setup, please setup a password for this account.

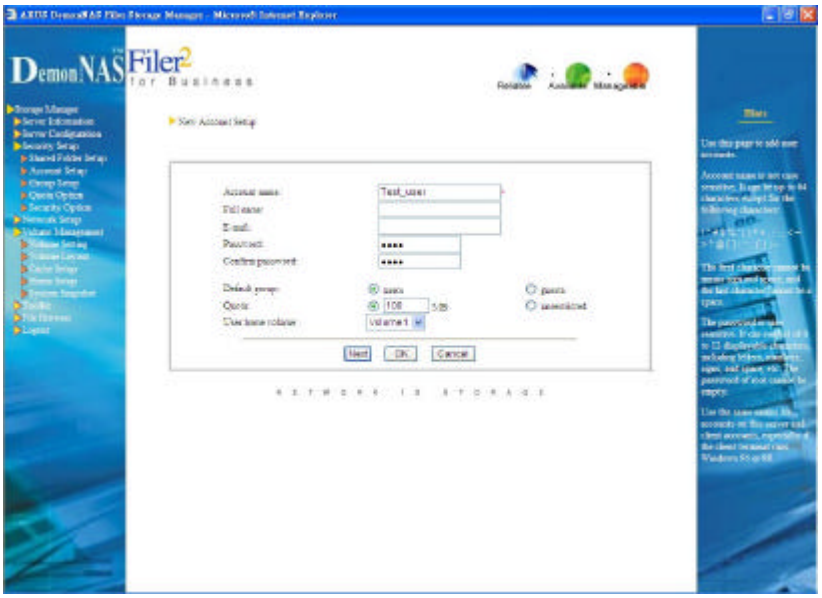
2. *guest*: This open account belongs to the *guests* group and has no password and quota restriction by default. Its purpose is to give access to all users on the LAN, so that they may access the NAS server's guest folders, such as public *n*. For the unauthorized Windows 98 clients, the system will automatically connect them to server with the account *guest*. For other Windows NT/2000/XP and Mac clients, users can enter *guest* as the user name (no password is needed) to connect to the server.

   However, due to security reasons, the system administrator might not want all unauthorized users, e.g. users without an account on the NAS server or other account servers on the same LAN, to access the shared folders of the NAS server. By adding a password to the guest account, unrestricted access is disabled.

**TIP**

Account server, e.g. a Windows domain controller on an NT domain, or a NIS server on a UNIX domain.

## Adding user accounts



To add a new local user, click *Create*. The *New Account Setup* dialog appears. Enter the *account name*, the *full name* of the user, an e-mail address and a password. Under *Default group*, select whether the user will receive his/her own home folder. If yes, select the *users* group; if no, select *guests.*

After a new account has been created under *users* group, the system will set up a *home* folder named "home" for this account. Only the user can access his home folder. If a Windows client accesses the NAS server through the Network Neighborhood, he will see a folder named "home." The user has full *read and write* privileges to that folder. When the system has more than one volume, system administrator must specify in which volume to store the home folder of this account in the *User home volume*. The default location can be setup in the *Security Option* page. System administrator can also change it.

The system administrator can proceed to setup the disk quota for each account. The *default quota for newly created user* specified in the *Security Option* page will be displayed here. Please change according to your own need. Please note the disk quota will be applied to every volume. This means that if there are three volumes in the NAS server, and system administrator grants 100MB quota to a user, this user will have 100MB quota of storage space in each volume, and totally 300 MB quota on the NAS server.

**TIP**

If the quota set by the administrator for a new account differs from the default quota granted to the user in the *Default Privilege Settings* page, the user quota on future created volumes will be based on that in the *Default Privilege Settings* page. Thus the administrator must change the quota manually.

The preset value for the *guest* and *root* accounts is *unrestricted*. If, for security reasons, the administrator wishes to restrict disk quota for guest users without proper accounts on the NAS server or any account server, simply setup a quota for the *guest* account in the *Security Setup→Quota Option* page. The system administrator can also use this page to change the quota of each account or specify quota in each volume of a user in a flexible way. .

When a Windows NT 4.0/2000 or Mac user accesses the NAS server, the Windows operating system will ask for the NAS server or Windows account and password to confirm his or her identity. In the case of Windows 98, Windows will automatically retrieve the identity of the client and only request a password. If the Windows user account is not the same as the account on the NAS server, the client cannot log in on the NAS server. The system administrator must therefore keep the NAS server accounts and Windows accounts synchronized.

## Deleting local users

To delete a local user, simple select the account on the left side (use Ctrl for multiple and Shift for continuous selection), then click *Remove*.

## Modify user account detail

To modify the details of a user account, select an account from the user list on the left side of the page, make changes on the right, and click the *Apply* button below.

## Windows Domain Accounts

If a Windows domain exists on the network, the system administrator only has to add the NAS server to the Windows domain to take advantage of the Windows domain controller privilege settings and grant all accounts on the Windows domain access right to the NAS server's storage space. When these clients need to access the server, they can do so by entering their Windows domain account name and password.

Once the NAS server is part of a Windows domain, a new tab called *Windows domain accounts* will become available on this page, containing a copy of all user accounts. Only the account names will be copied here, without passwords and other information. When a client attempts to access the NAS server, the NAS server will forward the account and password information to the Windows domain for verification. If the result is positive, access will be granted. If the Windows domain controller does not authorize the user, the account is verified against the list of local users. Access is granted, if the login data corresponds to a local user. If a user has an account *user1* on both the Windows domain and the NAS server, but with different passwords, access is granted if either one of the two passwords is provided. The system administrator should, however, avoid allowing accounts existing on the Windows domain to be created on the NAS server. A situation where different users share the same account name should also be avoided.

**DemonNAS Filer for Business** will read the Windows domain account list every 60 minutes; any changes on the Windows domain will also appear on the NAS server.

By default Windows domain accounts do not have home folders. If you wish to assign a home folder to this type of account, simply select the desired account on the left (use Ctrl for multiple and Shift for continuous selection), then click

on *Add to local*. The selected accounts will appear in the list of local users. By default, they are part of the *guests* group. First setup the passwords for the accounts, then transfer these accounts from the *guests* group to the *users* group, and select the *User home volume* location.

Additionally, Windows domain account will directly apply the default settings for all newly created users defined in *Security Option.* The system administrator can setup hard disk quota for each individual NT domain account in *Quota Option*.

**TIP**

1. For security reasons, the Windows domain does not allow other domains to retrieve the user passwords on it; when the account information in the *Windows domain accounts* tab are added to the *local accounts*, the system will not able to duplicate the user passwords on Windows domain directly to the local machine. The system administrator will have to add passwords for these accounts on the *Local accounts* tab manually. Therefore, please set the same passwords here as the ones on Windows domain.
2. This system allows group names with a maximum of 15 displayable characters. After having been added to a Windows domain, any group name on the domain with more than 15 characters will not be duplicated by the system onto the NAS server. Only one warning message will be shown and inform the system administrator of all unduplicated accounts.

   If the NAS server is part of the Windows domain, the system administrator has to avoid adding any group on the domain with a name exceeding 15 characters, otherwise the system will not be able to duplicate this group to the NAS server, nor will a warning message appear.

# UNIX NIS Accounts

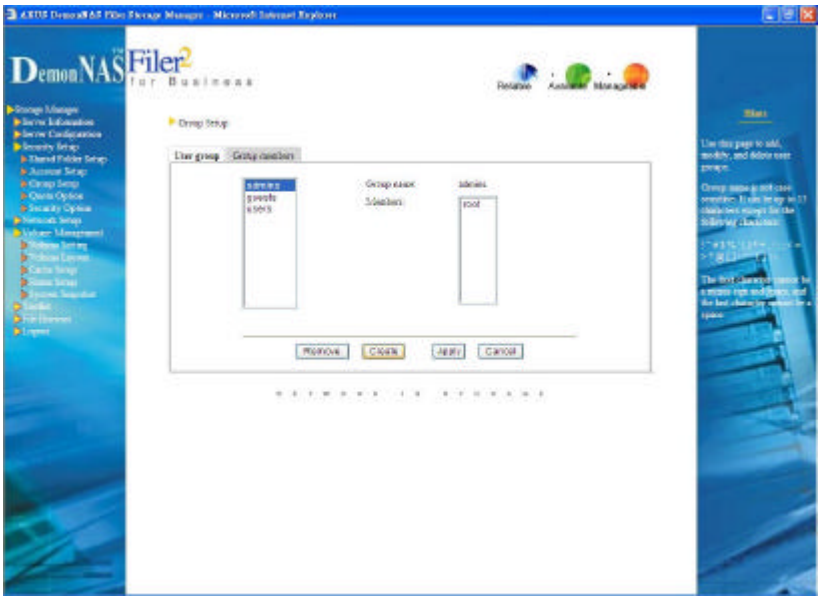
If the network already contains a UNIX NIS domain, the system administrator can simply add the NAS to the UNIX NIS domain to retrieve access settings from the NIS server.

Once the system administrator adds the NAS server to a UNIX NIS domain (see *Network Setup→UNIX NIS*), a new tab entitled *UNIX NIS Accounts* will appear on this page, containing all the users retrieved from the NIS server. These accounts will directly apply the default quota set up for a new user in the *Security Option* page. The system administrator can also set hard disk quota individually for each NIS domain account in the *Quota Option* page.

When adding new accounts on NFS clients, some NFS clients automatically generate a corresponding group for each account. We recommend the system administrator to disable this function, since **DemonNAS Filer for Business** only supports a maximum of 128 user groups, and the NAS server would therefore not be able to be integrated into the NIS domain if there are more than 128 user groups.

# Group Setup

## User Group




Use this page to add, modify or delete user groups. **DemonNAS Filer for Business** allows up to 1,024 user groups (including user groups on the local machine, Windows domain and NIS server).

Group name is not case sensitive. It can be up to 15 characters except for the following characters:

! " # $ % ' ( ) * + , / : ; < = > ? @ [ ] \ ^ ` { } | ~

Besides, the first character can not be minus sign and space, and the last character can not be spaces.

## Default user groups

The system includes three default groups:

1. *admins*: this is the system administrator group. Only members of this group can change system settings. *root* is the default member of this group.

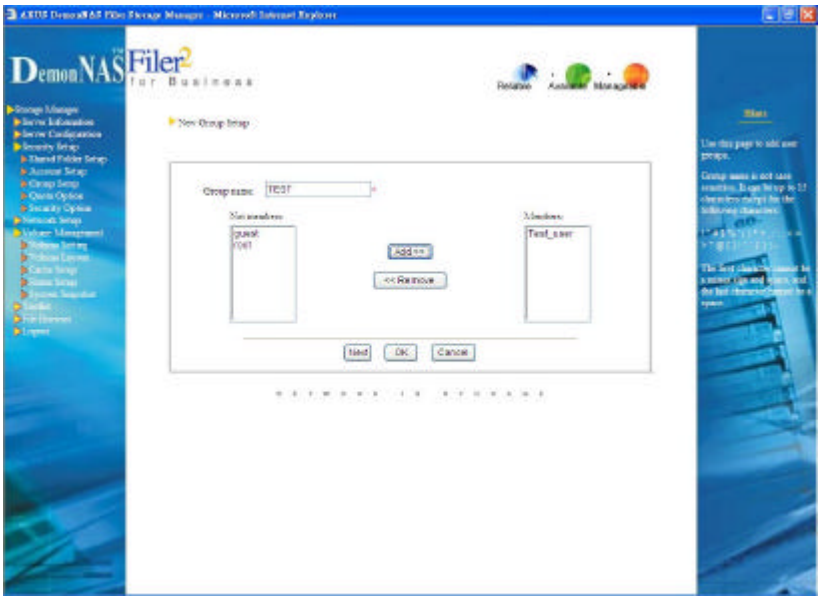
2. *users*: this is the user group. Each member of this group has his/her own home folder. root is the default member of this group.

3. guests: unlike the members of the *users* group, those of *guests* do not have their own home folders , instead, they can access the public folders on the NAS server. The account *guest* is the default member of this group.

**TIP**

Users can only belong to either the *users* or the *guests* group, not to both. Suppose a company has two departments A and B. Department A has purchased a NAS server for their employees to store and share information. Part of the space should be made available to department B. In this case, the system administrator can setup accounts for each member of department A and B, then group the department A accounts under *users* and the members of department B under *guests*. That way the employees of department A will have their own home folders, while the members of department B will be able to access only those folders for which they have access privileges.

## Adding user groups




To add a new group, click *Create*. The *New Group Setup* page appears. Enter a name for the group, and select the members of the group in the *Not members* list (use Ctrl for multiple and Shift for continuous selection). Click on *Add* to add the selected members. Select *OK* to confirm the operation, or *Next* to add more groups.

Please note:

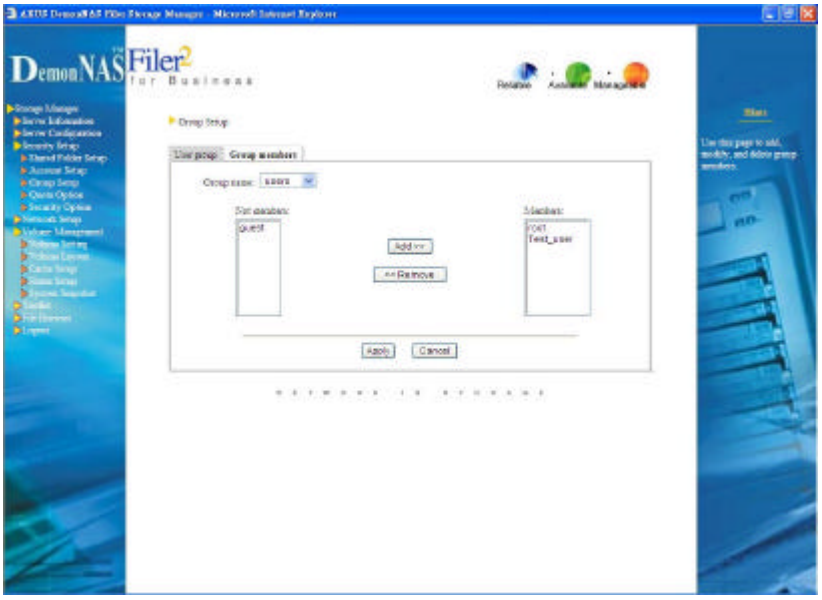
If the number of user account exceeds 512, the function of adding non group members will not be provided at the bottom of this page when adding a new user group. Please add the group members after completion of adding in the

*group members* page.

### Deleting user groups

To delete a group, select the group in the list (use Ctrl for multiple and Shift for continuous selection), and then click *Remove*.

## Group members




Use this page to add, modify, and delete group members. The M*embers* field contains existing members. Users not belonging to this group are listed on the left *Not members* field.

If this NAS server belongs to a Windows domain and (1) the system administrator has previously moved Windows domain users in the *Account Setup* page to the local accounts or (2) both NAS server and Windows domain have the account with the same name, those *NT domain users* will NOT appear in the list of members but *Local Users* to avoid multiple selection and assignment to a group of the same user.

### Adding group members

To add a new group member, select the target group from the list, and then select the members you wish to add in the *Not members* list (use Ctrl for multiple and Shift for continuous selection). Then click *Add.*

Note that all users must belong either to the *users* or the *guests* group. If the system administrator uses this page to move a member from the *guests* group to the *users* group, the account will automatically be removed from the *guests* group, and vice versa. However, accounts belonging to *guests* or *users* group can be assigned to other groups, including the predefined *admins* group, or any other group set up by the administrator.

**TIP**

When add multiple users to a workgroup in Windows 98, use a browser of IE5.5 or above for proper operation.

## Deleting group members

To remove a member from a group, select the name from the list of members (use Ctrl for multiple and Shift for continuous selection), then click *Remove*.

**TIP**

If a user is connected to the server while the administrator is modifying the user's security settings, these changes will not be activated immediately, but only after the user logs out and back in again.

## Moving group members

To move a user account to another group, you should delete this account from the original group and then add it to the new group.

Rules for moving group members as follows:

| To: / From: | **guests** | **users** | **admins** |
|---|---|---|---|
| guests | | Allowed | Not allowed |
| users | Allowed | | Allowed |
| admins | Not allowed | Allowed | |

Notes when moving group members:

Moving an account from the *users* to the *guests* group will remove the home folder of that account, as well as its data. Be careful in making this change.

Although the *root* account belongs to both the *admins* and the *users* group, there is no home folder for this account. Moreover, the system administrator cannot move *root* account into the *guests* group.

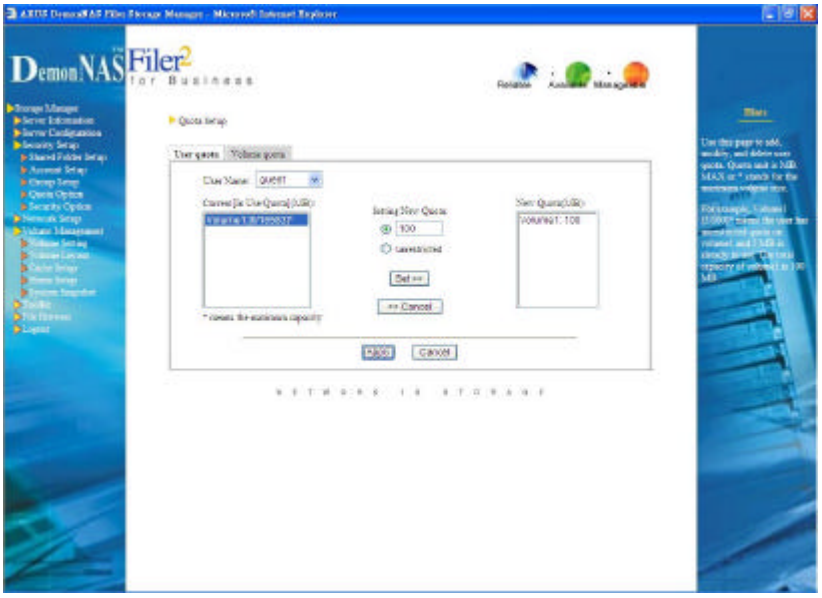
The *guest* account can only belong to the *guests* group. The system administrator cannot move it to the *users* or *admins* group.

Please note that the setting will be separated into different pages according to the number of accounts. If the account you are going to perform does not appear on the page, please select the page number at the bottom of the page to go to other pages.

# User Quota Setup

There are two ways a system administrator can view and modify quota setup in the NAS server, by user or by volume.

## User Quota




The system administrator can add, modify or delete user quota through this screen.

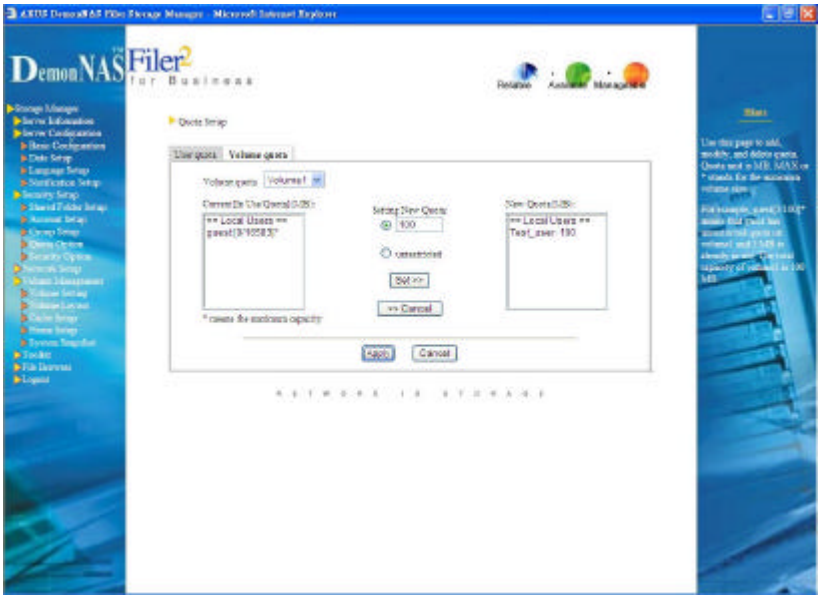
*Current [In Use／Quota] (MB)* column indicates the quota and amounts of space used in each volume by the current account. The symbol "*" in this column means the account is assigned the maximum quota. For example, *Volume1: [200/500]* means that volume1 has 500MB quota available and of which 200MB has already been used. Additionally, *Volume2: [200/1000]* means the current account has the maximum space available in volume2, i.e. 1000MB, of which 200MB has already been used.

To change user quota, please select either Local, Windows domain or NIS domain account in *User Name*. Then select the item to be changed in the *Current [In Use/Quota](MB)* column, setup new quota in *Setting New Quota* and click *Set>>* button. Repeat these steps if quotas for more than one volume require modification. The new quota amount will be displayed in the

*New Quota* column to be applied. Make sure the new quotas are correct. Click the *Apply* button to update the values in the *Current [In-Use/Quota](MB)* column. To cancel setup for a specific volume, please select an individual item and then click the <<*Cancel* button. To cancel all the modification, click the *Cancel* button.

Please note if the NAS server is added to the Windows domain and (1) system administrator has previously added certain Windows domain user account to *Local account* in the *Account Setup* page or (2) there is an account in both NAS server and Windows domain with the same name, then this account will not be displayed in columns *NT Domain Users* or *NIS Domain Users* in the *User Name* List at the top of this page and will only be listed in *Local Users* to prevent system administrator from being confused because of repeated quota setup for the same user account.

## Volume Quota




The system administrator can add, modify or delete user quota in every volume through this page.

*Current [In Use／Quota] (MB)* column indicates the quota and amounts of space used of all the users in the current volume. The symbol "*" in this column means the account is assigned the maximum quota. For example, *User1: [200/500]* means that User1 has 500MB quota available and of which 200MB has already been used. Additionally, *User2: [200/1000]** means User2 has the maximum space available in the current volume, i.e. 1000MB, of which 200MB has already been used.

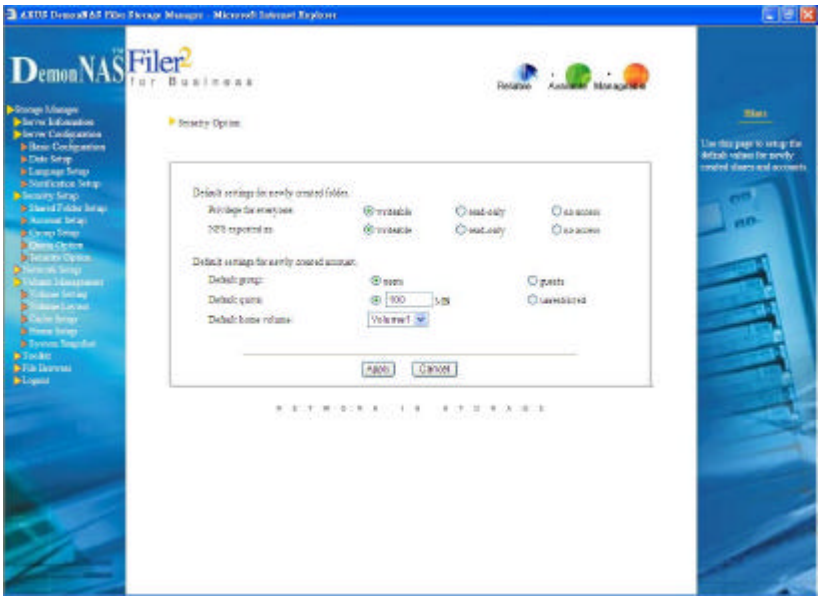
To change volume quota, please select a volume in *Volume quota.* Then select the account to be changed in the *Current [In Use/Quota](MB)* column, setup

new quota in *Setting New Quota* and click *Set>>* button. Repeat these steps if quotas for more than one account require modification. The new quota amount will be displayed in the *New Quota (MB)* column to be applied. Make sure the new quotas are correct. Click the *Apply* button to update the values in the *Current [In-Use/Quota](MB)* column. To cancel setup for a specific account, please select an individual setup column and then click the *<<Cancel* button. To cancel all the modification, click the *Cancel* button.

Please note if the NAS server is added to the Windows domain and (1) system administrator has previously added certain Windows domain user account to *Local account* in the *Account Setup* page or (2) there is an account in both NAS server and Windows domain with the same name, then this account will not be displayed in columns *NT Domain Users* or *NIS Domain Users* in the *Current [In-Use/Quota](MB)* List at the left side of this page and will only be listed in *Local Users* to prevent system administrator from being confused because of repeated quota setup for the same user account.

Please note that the setting will be separated into different pages according to the number of accounts. If the account you are going to perform does not appear on the page, please select the page number at the bottom of the page to go to other page s.

# Security Options




The system administrator can use this page to modify the preferences of newly created shared folders and user accounts.

## Default settings for newly created folders

1. Privileges for everyone: ○ writeable ○ read-only ○ no access

   New folders can be exported to Windows/Mac either with full read and write permissions, i.e. *writeable*, with write protection, i.e. *read-only*, or no access right, i.e. *no access*.

2. NFS exported as: ○ writeable ○ read-only ○ no access

   This setting determines whether NFS users have by default full read and write permissions, i.e. *writeable*, can only read newly created folders, i.e. *read-only*, or no access right, i.e. *no access*.

## Default settings for newly created accounts

1. Default group: ○ *users* ○ *guests*

   Here you can choose to which group newly created users belong by default. If you want new accounts to automatically have a home folder, choose *users*, otherwise, choose *guests*.

2. Default quota: ○ [ ] MB ○ unrestricted

   With this setting you can limit the amount of storage space allotted to new users, or choose not to attach any restrictions, i.e. *unrestricted*.

3. Default home volume: [Volume]

   If the newly created account belongs to *Users* group, please select the volume in which its home folder will be saved.

**TIP**

If a user is online, all the user privilege changes under *System privileges setting* will not be effective at once but only after the user has logoff and login again.

# Using Access Control List (ACL)

Access control list is a new function under **DemonNAS Filer for Business 2.0**. While **DemonNAS Filer for Business 1.1** only allows the system administrator to use privileges control on shared folder (please refer to chapter 4 *Security Setup* →*Shared Folder Setup*), **DemonNAS Filer for Business 2.0** allows users with proper privileges to make access right control on the shared folders and the files/folders created on the shared folders.

**DemonNAS Filer for Business 2.0** allows users of different platforms to access the files simultaneously. However, different platforms themselves have different design of the access right control for files and folders, please note the behavior on each platform when using the access control list provided by **DemonNAS Filer for Business 2.0**.

Basically the access control list design of **DemonNAS Filer for Business 2.0** is to follow the rule of Windows, Mac, and UNIX platforms, and in the succeeding section the corresponding relations between the ACL of **DemonNAS Filer for Business 2.0** and that of other platforms:

## Windows mapping table

| ACL entry of **DemonNAS Filer for Business 2.0** | Corresponding access right of **Windows** | |
|---|---|---|
| ●: stands for the entry is checked | | |
| Traverse Folder / Execute File | ● | Full Control |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | ● | |
| Delete | ● | |
| Read Permissions | ● | |
| Change Permissions | ● | |
| Take Ownership | ● | |
| Traverse Folder / Execute File | ● | Modify |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | | |

| | | |
|---|---|---|
| Delete | ● | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | Read & Execute |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | | |
| Create Folders / Append Data | | |
| Write Attributes | | |
| Write Extended Attributes | | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | | Read |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | | |
| Create Folders / Append Data | | |
| Write Attributes | | |
| Write Extended Attributes | | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | | Write |
| List Folder / Read Data | | |
| Read Attributes | | |
| Read Extended Attributes | | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | List Folder Contents (Folders only) |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | | |
| Create Folders / Append Data | | |
| Write Attributes | | |
| Write Extended Attributes | | |

| | | |
|---|---|---|
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions<br>Take Ownership | | |

## UNIX mapping table

| ACL entry of<br>**DemonNAS Filer for Business 2.0** | Corresponding access right of<br>**UNIX** | |
|---|---|---|
| ●: stands for the entry is checked<br>: only applicable for folders | | |
| Traverse Folder / Execute File | ● | 7 |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | ● | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | | 6 |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | ● | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | 1 |
| List Folder / Read Data | | |
| Read Attributes | | |
| Read Extended Attributes | | |
| Create Files / Write Data | | |
| Create Folders / Append Data | | |
| Write Attributes | | |
| Write Extended Attributes | | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | | |
| Change Permissions | | |

| | | |
|---|---|---|
| Take Ownership | | |
| Traverse Folder / Execute File | | 4 |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | | |
| Create Folders / Append Data | | |
| Write Attributes | | |
| Write Extended Attributes | | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | | 2 |
| List Folder / Read Data | | |
| Read Attributes | | |
| Read Extended Attributes | | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files<br>Delete | ● | |
| Read Permissions<br>Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | 5 |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | | |
| Create Folders / Append Data | | |
| Write Attributes | | |
| Write Extended Attributes | | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | 3 |
| List Folder / Read Data | | |
| Read Attributes | | |
| Read Extended Attributes | | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data<br>Write Attributes | ●<br>● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | ● | |
| Delete | | |
| Read Permissions | | |

| | | |
|---|---|---|
| Change Permissions | | |
| Take Ownership | | |

## Mac mapping table

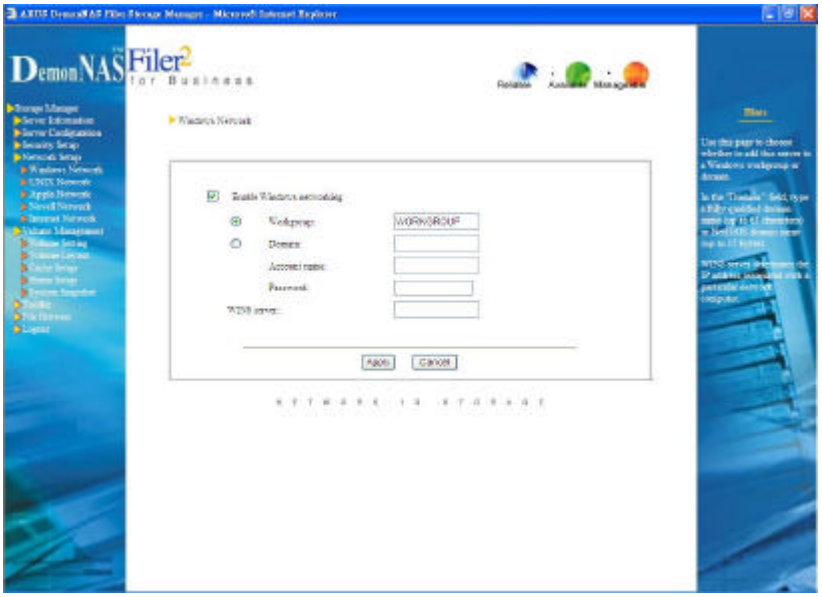
| ACL entry of **DemonNAS Filer for Business 2.0** | Corresponding access right of **Mac** | |
|---|---|---|
| ●: stands for the entry is checked<br>: only applicable for folders | | |
| Traverse Folder / Execute File | ● | Read & Write |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | ● | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | Read only |
| List Folder / Read Data | ● | |
| Read Attributes | ● | |
| Read Extended Attributes | ● | |
| Create Files / Write Data | | |
| Create Folders / Append Data | | |
| Write Attributes | | |
| Write Extended Attributes | | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | ● | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | Write only<br>(For folders only) |
| List Folder / Read Data | | |
| Read Attributes | | |
| Read Extended Attributes | | |
| Create Files / Write Data | ● | |
| Create Folders / Append Data | ● | |
| Write Attributes | ● | |
| Write Extended Attributes | ● | |
| Delete Subfolders and Files | ● | |
| Delete | | |
| Read Permissions | | |
| Change Permissions | | |
| Take Ownership | | |
| Traverse Folder / Execute File | ● | No access |
| List Folder / Read Data | | |

| | | |
|---|---|---|
| Read Attributes | | |
| Read Extended Attributes | | |
| Create Files / Write Data | | |
| Create Folders / Append Dat a | | |
| Write Attributes | | |
| Write Extended Attributes | | |
| Delete Subfolders and Files | | |
| Delete | | |
| Read Permissions | | |
| Change Permissions | | |
| Take Ownership | | |

# Network Setup

Use *Network Setup* to set the network types supported by the NAS server. The default set ting allows for simultaneous use of Windows, UNIX, and Mac networks. You may change the defaults according to your needs.

## Windows Network




The system administrator can choose to enable Windows networking so that the Windows clients can access the shared folders of the NAS server. To do so, Select *Enable Windows networking*, and then select *Workgroup* or *Domain* below.

If *Workgroup* is selected, type the workgroup to join in the *Workgroup:* field and then press *Apply*.

If Domain is selected, type the Windows domain name in the *Domain:* field, in the *Account name:* and *Password:* fields type in the authentication data of the Windows account that belongs to the Administrator group, and then click *Apply* to complete.

Please note that in the *Domain:* field, you can type a fully qualified domain name (up to 63 characters) or NetBIOS domain name (up to 15 bytes).

## Applying Windows domain Privilege Settings

After the server has successfully joined in a Windows domain, a new tab will appear on the *Security Setup→Account Setup* screen, called *Windows Domain Accounts*, containing a copy of all user accounts. (For setup instructions, see *Security Setup→Account Setup →Windows Domain Accounts*).

In the future when a Windows or Mac client attempts to access the NAS server, the NAS server will forward the entered account and password to the Windows domain controller for authentication. If the authentication passes, access right to the NAS server will be granted. However, if the authentication fails, the NAS server will take over the authentication task and grant the user access right if the entered account and password corresponds to a local user.

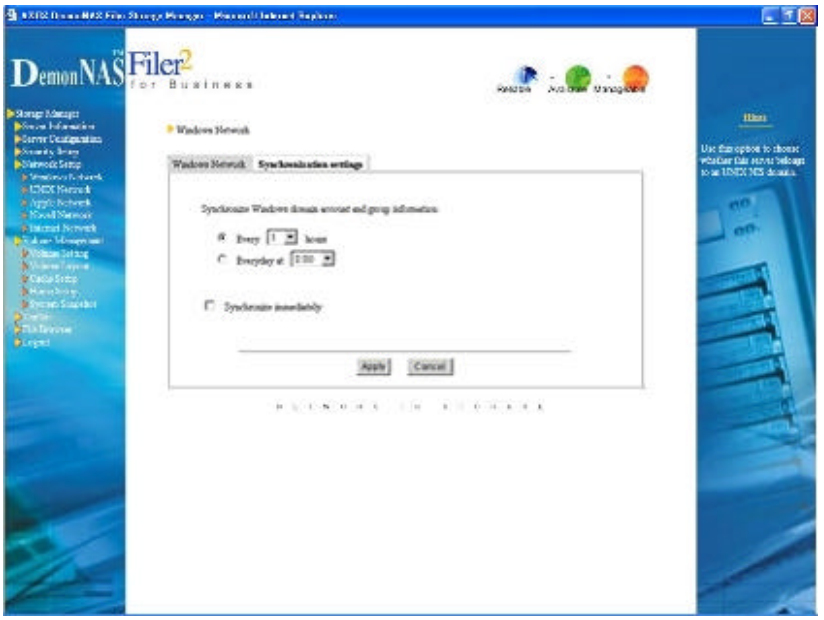
Note that accounts with the same name on both Windows domain and the NAS server will be merged automatically. For example, if an account *user1* exists on both the Windows domain and the NAS server, but with different passwords, access is granted if either one of the two passwords is provided. The system administrator should, however, avoid allowing accounts existing on the Windows domain to be created on the NAS server. A situation where different users share the same account name should also be avoided.

**TIP**

Notes on working with a Windows domain:

1. After moving a NAS server from a Windows domain, or workgroup to another domain or workgroup, the NAS server may still appear in the original domain or group in the Windows clients' My Network Places. This is a restriction of the My Network Places module itself and does not involve a breach of security: the server does in fact not exist any longer in the original domain or workgroup.
2. When NAS server is added into the Windows domain, if Windows domain controller is not able to operate properly, Windows client users will not be able to access the NAS server. This is the limitation of Windows. Setting multiple Windows domain controllers can eliminate the chance of happening
3. For security reasons, an existing *root* account on the Windows domain will not be merged with the *root* account of the NAS server. In other words, if a client attempts to log into the NAS server with the *root* account, he must enter the NAS *root* password to gain access as system administrator.
4. Once a NAS server is part of a domain, only users in the same Windows domain can access the NAS server. Members of other domains or workgroup cannot access the server. E.g., if your NAS is part of a Windows domain *A*, and the Windows in this domain knows an account *user1* with the password *123*. If the client to which this account belongs to another domain *B*, the client will still not be able to access to NAS server, even when providing the correct login information on the account.

## Synchronization settings



After the NAS server successfully joins in the Windows domain, there will be an additional tab named *Synchronization settings* appearing next to the existing tab *Windows Network*. In this page you can setup how the user and group data of the NAS server will be synchronized with the Windows domain controller.

### Synchronize with schedule

You can choose to synchronize data between the NAS server and the Windows domain controller every fixed period or at a certain time everyday. To do so, select an appropriate time from the pull-down menus and then click the *Apply* button to finish the setting.

Please note that when the account number is large, to ensure every scheduled synchronization can complete and to keep the server efficiency, the interval between 2 synchronizations should not be too long.

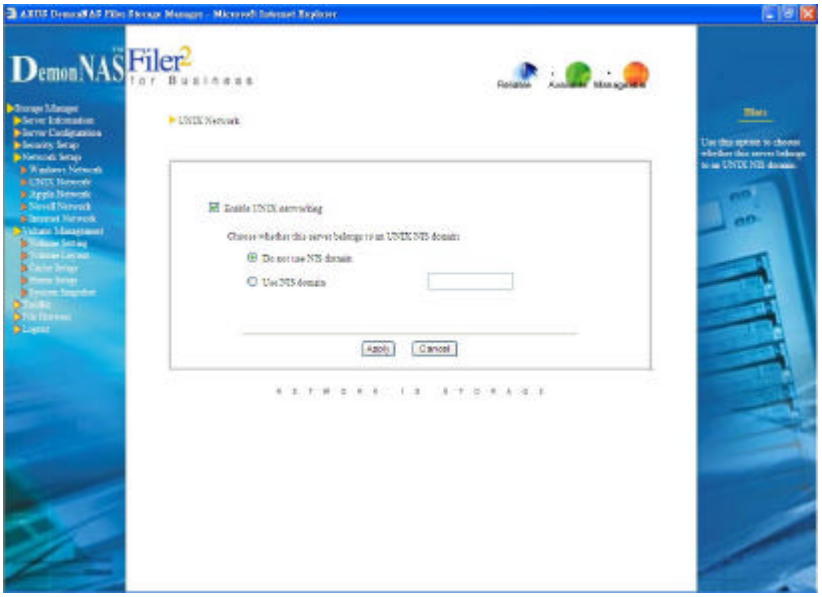
### Synchronize immediately

Anytime when you feel the need to synchronize data between the NAS server and the Windows domain controller, click the check box before the option *Synchronize immediately* and then click *Apply* to finish the setting.

## WINS Server

If there is a WINS server in the Windows network, please fill in the IP address of the WINS server.

# UNIX Network

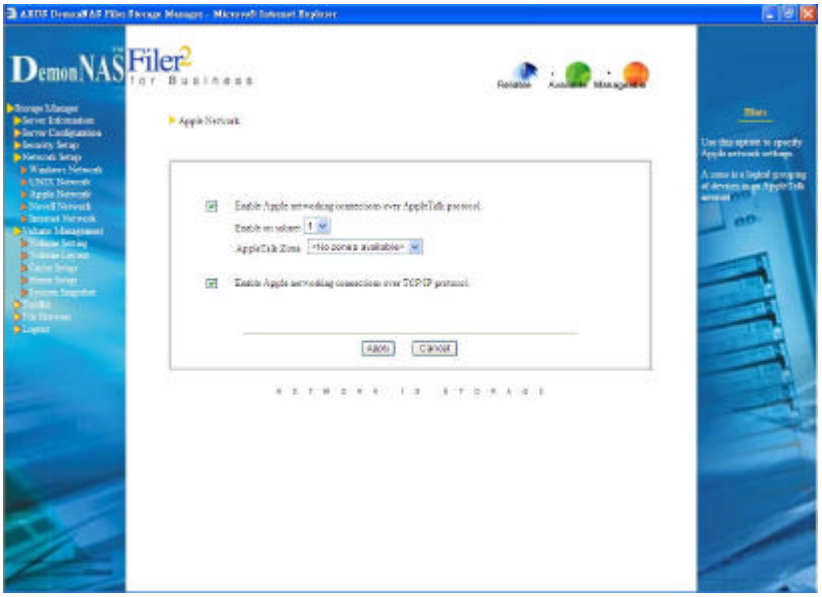



The system administrator can decide whether to make the NAS server available for NFS client. If yes, please select *Enable UNIX Networking*.

If there is a NIS server in the UNIX network, use this option to select whether the server should be part of a NIS domain. If yes, you must enter a domain name.

After joining a NIS domain, a new tab called *UNIX NIS Accounts* will appear under *Security Setup→Account Setup*, showing all available user accounts on the NIS server. System administrator can setup hard disk quota for these users in the *Security Setup→ Quota Option* page.

# Apple Network




Use this option to select whether the server should use AppleTalk or TCP/IP, thus allowing or preventing Mac clients from accessing the NAS server.

This system also supports "Zone", a logical group of devices in an AppleTalk network. When the system detects the first subnet that has an AppleTalk Zone, it will display these zones on this page. A system administrator can add the NAS server to one of the zones.

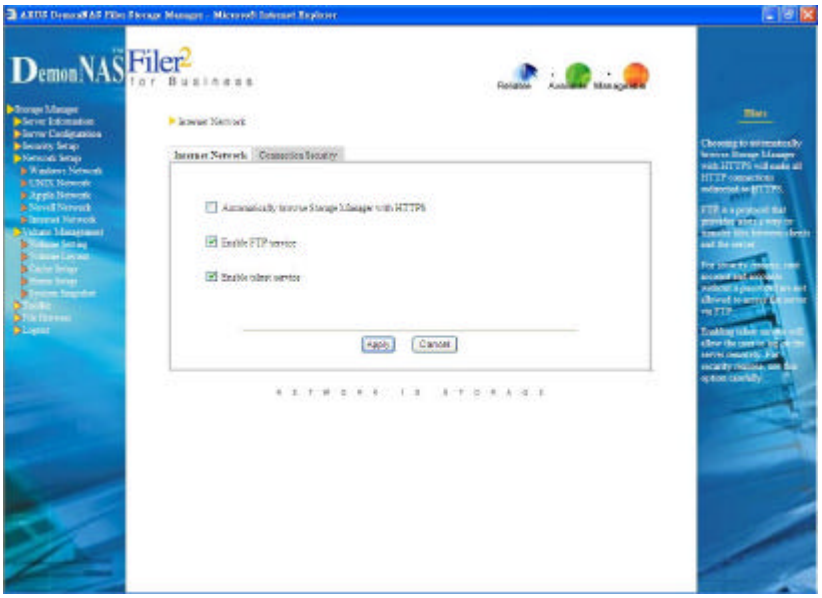
Please Note:

When there is more than one network card in the NAS server and the server is set up as having multiple subnets, this system only supports Mac client in s single subnet to read/write from the server through AppleTalk or TCP/IP protocol. Mac clients in other subnet(s) can only read/write through TCP/IP protocol. Due to this limitation, this system can only support the Zone in a single subnet.

**TIP**

1. When a Mac client, for example a Mac OS 9.0.2 client, is trying to browse an English web site and sees many "cross" marks appear, please close *Smartview* from the *Control Panel.*
2. Mac clients will not be able to save any single file larger than 2GB onto the NAS server.
3. When a Mac client deletes a file on the NAS server, the file is not actually deleted so the available HDD space shown on the "*Server Information/Status*" page is not enlarged. To release the space, use "*Empty Trash*" on the Mac client.

# ▪ Internet Network



The system administrator can make Internet related configurations on this page.

## Automatically browse Storage Manager with HTTPS

HTTPS is a protocol encrypted with SSL that makes data transmission between clients and the server more secure.

To automatically browser the **Storage Manager** with HTTPS, check the option *Automatically browse Storage Manager with HTTPS*, and all HTTP connections will be redirected to HTTPS.

## Enable FTP service

FTP is a kind of network protocol allowing users to transmit files between clients and servers. If you want to enable FTP service, check the *Enable FTP Service* button, and then click *Apply.*

**TIP**

For security reason, the account *root* and users without a password cannot log in the NAS server through FTP.

## Enable telnet service

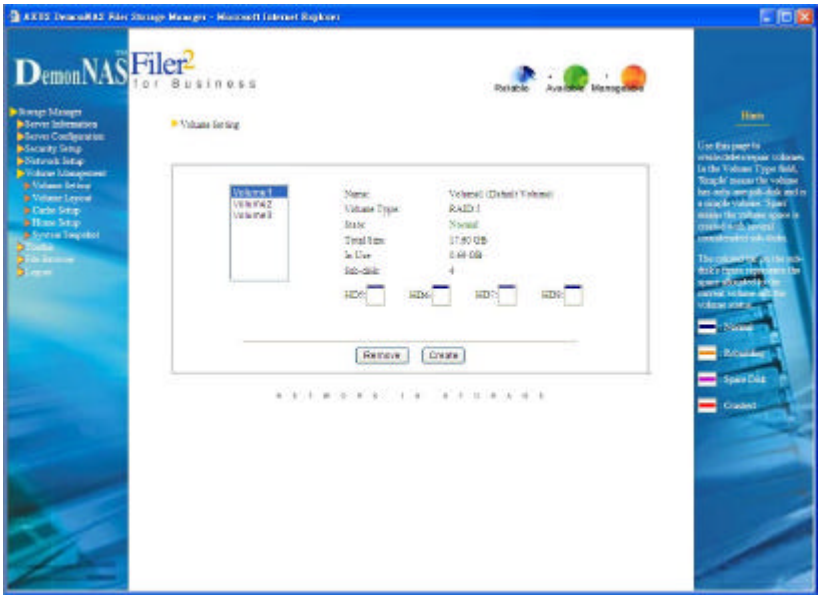
Enabling telnet service will allow the user to log on the server remotely. For security reasons, use this option carefully.

| TIP |
| --- |
| Telnet service is currently available only for the system vendor to do remote diagnosis , the administrator cannot log on remotely for management. |

# Volume Management

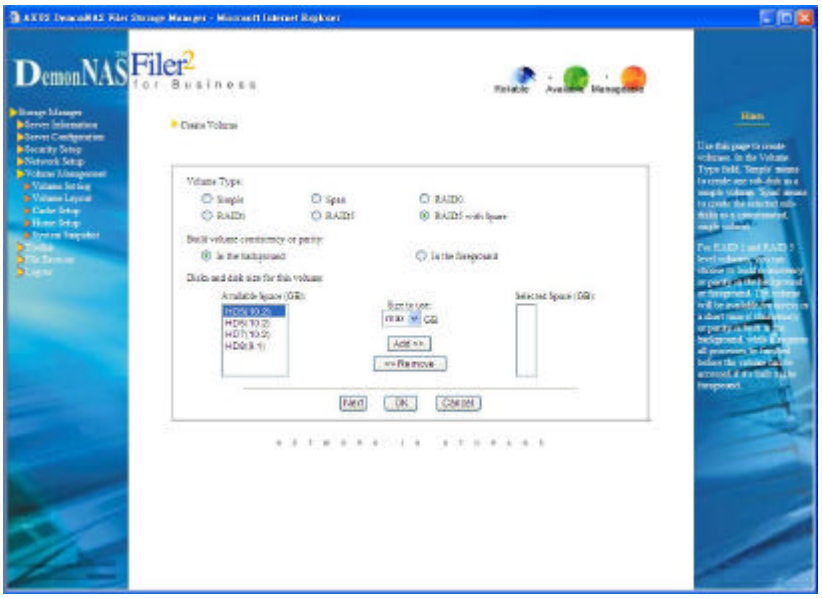
**DemonNAS Filer for Business** preset a default of 3GB space in each hard disk as a RAID 5 volume. System administrator can add or delete volumes in the system according to his/her own needs.

## Volume Setting




System administrator can create/remove/repair volume through this page. The maximum number of volumes this system can support is 1.5 times of the total number of hard disks. Thus in a model with four hard disks, the system can create at the most six volumes, i.e. (4*1.5), etc. There is no need to restart the server for volume creation, removal or repair to take effect.

## Create New Volume



To create a new volume, click *Create* button to enter into the *Create Volume* page.

First, click *Volume Type*. This system supports six volume types: Simple, Span, RAID 0, RAID 1, RAID 5, and RAID 5 with Spare.

Next, determine which hard disk storage space will make up the volume. The *Available Space* column indicates space in each hard disk that has not yet been allocated. After hard disk is selected, setup *Size to use*, click *Add* to add to the volume. This step is similar to the utility that allows for segmentation of a large hard disk into smaller segments to achieve more flexible hard disk space utilization. The *Selected Space* column will display all disk space to be added to the volume. After confirmation, click *OK* to start creating the new volume. System administrator can display *Creating Process Status* to check the progress of volume creation.

After a volume is created, system will return to main page of the *Volume Setting*. At this time, the newly created volume should be in normal working condition. The default public*n* shared folder will also be created. System administrator can also add other shared folders in this volume and make available for clients to use.

**TIP**

1. *Size to use* is measured in the unit of GB or gigabyte. The smallest unit depends on the size of the hard disk. The current system will divide the hard disk space by 20 and take the nearest whole number as the smallest unit. For example, when the disk total volume is less than 40 GB, the smallest unit is 1GB. Or when hard disk total volume is greater than or equal to 40GB and less than 60GB, the smallest unit will be 2 GB, etc.
2. Regardless of the disk size, the option "*1GB*" will be shown on the *Size to use* menu.
3. The size of a single volume can be up to 8 TB.
4. After a volume is created, the "*In Use:*" size will reveal 1% of that volume. This space is reserved by default for the administrator to do the necessary operations such as accessing the web UI or reading/writing/deleting data on the NAS server after the system is full.

Please Note:

While creating non-RAID 1 or non-RAID 5 volume, when system returns to *Volume Setting* page, you will see "*Normal"* in the *State* column for the volume. But when creating RAID 1, RAID 5 or RAID 5 with Spare volume, the *State* column will display *Built (Building percentage: xx%)*. This is because when creating RAID 1 or RAID 5 volume, though the volume is created and client is able to perform save or retrieve function, but because the system is still performing necessary processes in the background (e.g. building RAID 1 consistency or RAID 5 parity) to ensure proper working of the system, thus please make sure not to hot -swap the hard disk until the *State* column shows the message: *Normal*.

## Simple

A simple volume must be created in contiguous space of the same hard disk, and the selected space will be created as independent and with non-RAID mechanism hard disk. In creating a simple volume, you can select only one hard disk at a time.

## Span

A span volume can be created by combing space from two or more hard disks. The selected disks will be created as one large, contiguous volume. The selected space in each hard disk does not need to be equal in size.

### RAID 0

RAID 0 will consider all the selected space as one large hard disk. Since it will however perform parallel and multiple read/write, thus it has better performance efficiency than *Simple* or *Span* volume.

### RAID 1

RAID 1 will use half of the volume as one-to-one data mirroring, i.e. duplicate the same set of data from A to B to ensure data security and integrity. Thus, the actual available space is only half of the total space. This level of RAID can ensure high level of data security, but because it only has 50% utilization rate, the cost is relatively higher than other volume types. The use of RAID 1 indicates high priority of data security over cost consideration. There must be the selection of two hard disks with the same size in creating a RAID 1 volume.

### RAID 5

In addition to consolidating multiple (at least 3) hard disk space of the same size to a large virtual hard disk to enhance store/retrieval speed, RAID 5 utilizes one of the multiple storage space to store redundancy (parity) to enable data reconstruction in the future. Thus if there is *n* hard disk space, the actual storage space for a RAID 5 is only *n-1* disk space. This volume type can ensure high level of data integrity and is more cost effective than RAID 1 because of higher actual disk space availability. It is suggested to select RAID 5 in situation where there is a need for high level of data integrity. Creating a RAID 5 volume requires selection of at least three hard disks of the same disk space.

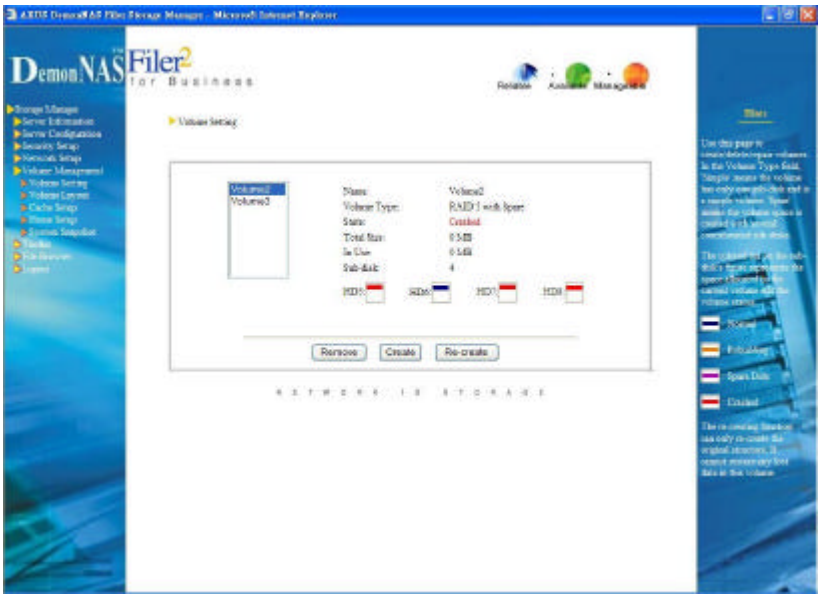
### RAID 5 with Spare

In RAID 5 with Spare volume type, a spare hard disk is added to a RAID 5 volume. This volume type will use one hard disk space to store redundancy and keep a disk as a spare. Thus if *n* hard disk space is selected, the actual space available is *n-2* hard disk space. When any hard disk is malfunctioned, the spare hard disk space will be on-line and replace the malfunctioned disk automatically. This volume type can provide timely data reconstruction better than RAID 5.

## Remove volume

To remove a volume, please select the volume and click *Remove*.

## Re-create volume




If a volume is crashed due to any failed disk, the volume structure could be recovered by clicking the *Re-create* button.

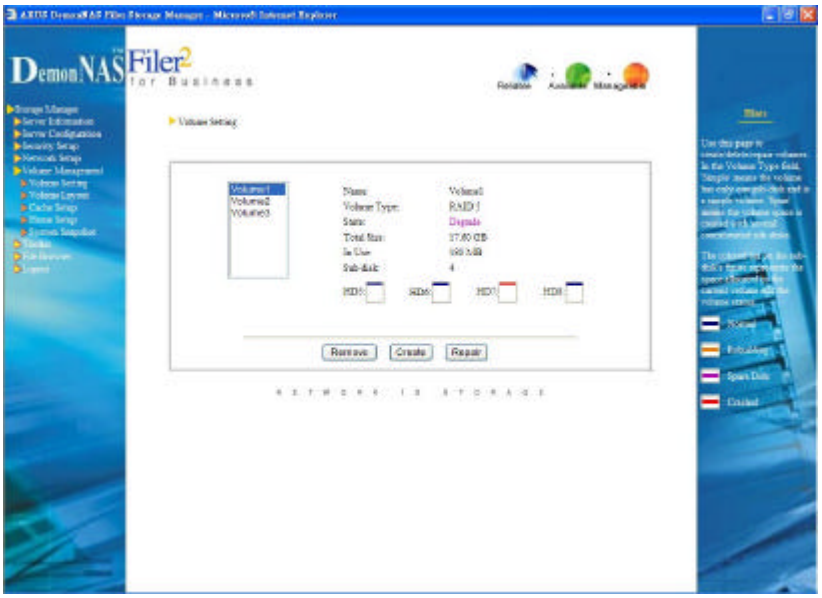
The re-creating function can only re-create the original structure of the crashed volume: share folders and users' home folders, and set it as the default volume if it originally was setup as such. It cannot restore any lost data in these shared folders.

Before you start recreating, please make sure the failed disk is replaced with a new one.

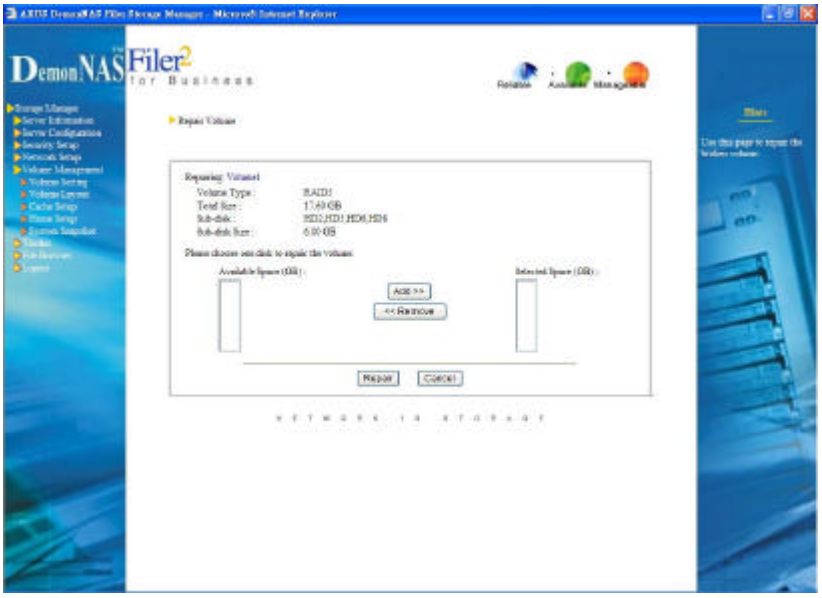
**TIP**

1. When a volume crashes, all data in users' home folders on the crashed volume will also be destroyed. However, the structure of the folders will be moved to the next available volume, and the original folderstructure will be moved back after the crashed volume is re-created.
2. When a volume crashes while there is no other volume available, the data in users' home folders on the crashed volume will be destroyed and the users' accounts will be transferred into the *guests* group. There will be no home folders for these accounts if the volume is re-created in the future since the accounts in the *guests* group don't have a home folder.

## Repair volume



This function can help repair volume types with data protection mechanism such as RAID 1, RAID 5 or RAID 5 with Spare. When any segment in a volume is damaged, system administrator can use the repair functions in this system to search for other available hard disk space in the server to fill up the damaged segment.

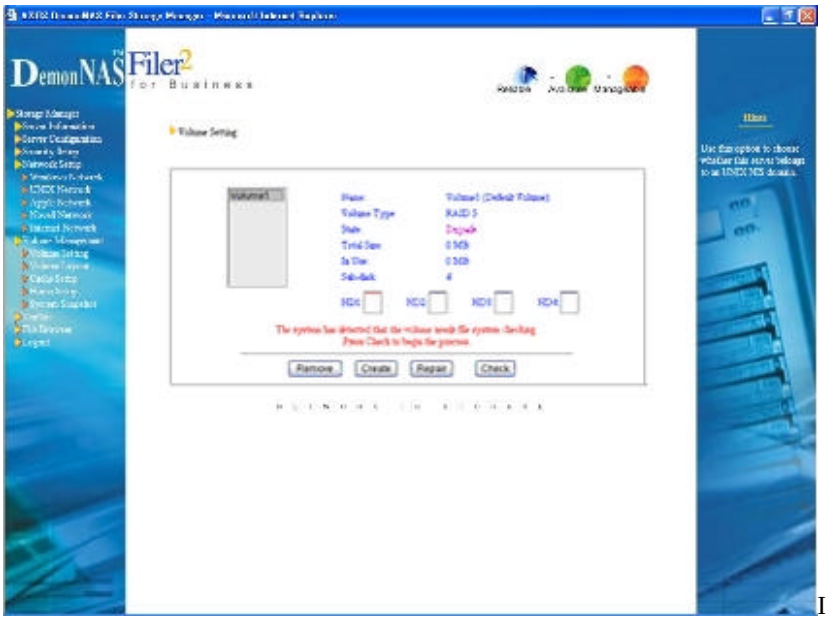


For example, assume volume2 is a volume of RAID 5, which is created from hard disks 1, 2 and 3, each with 10GB disk space. When disk 2 is damaged, the *State* column in *Volume Setting* page will display *degrade* indicating though

this volume can still be accessed but it is supporting these tasks with less than normal working condition. Click the *Repair* button in the bottom to start the *Repair Volume* page. The *Available Space* column will display all the hard disk space currently available to repair the damaged disk. Please select the hard disk, for example, disk 4, and click *Add.* After confirmation, then click *Repair* for the system to start data reconstruction from data stored in the second disk to the fourth disk. When this is complete, volume2 is composed from disks 1, 3 and 4, each with 10GB space.

Please note, you cannot select the hard disk in which the volume is created while repairing volume space. In the previous example, because volume2 is created from hard disks 1, 2 and 3, thus repair of this volume can only be performed with disk other than these 3 hard disks.

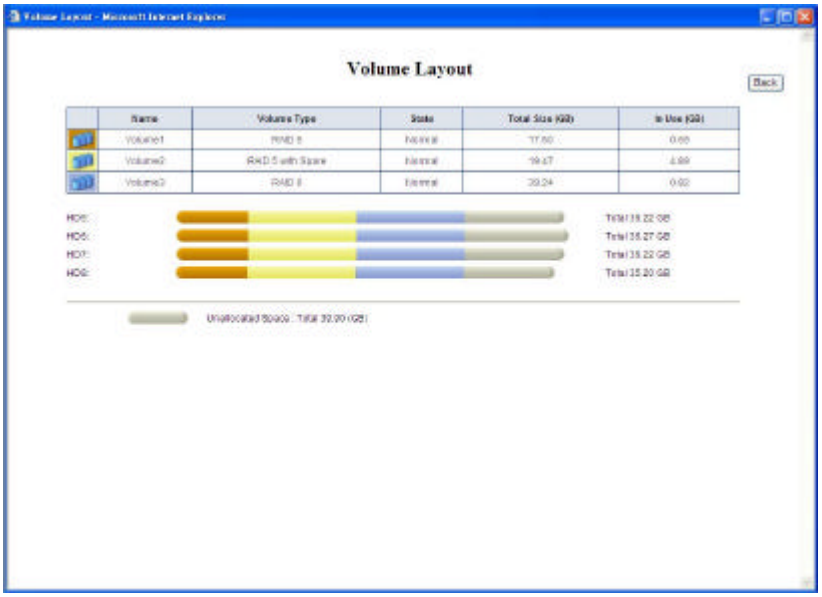
## Check file system




If the NAS server is improperly shut down or powered off, consistency check and parity check will be applied on RAID 1, RAID 5, and RAID 5 with Spare volume(s) when the server is rebooted. If the hard disk is improperly removed on the parity check stage, the *Volume Setting* page will prompt the following message: "The system has detected that the volume needs file system checking. Press Check to begin the process." Please press the *Check* button at the bottom of the page to start the file system check and recovery.

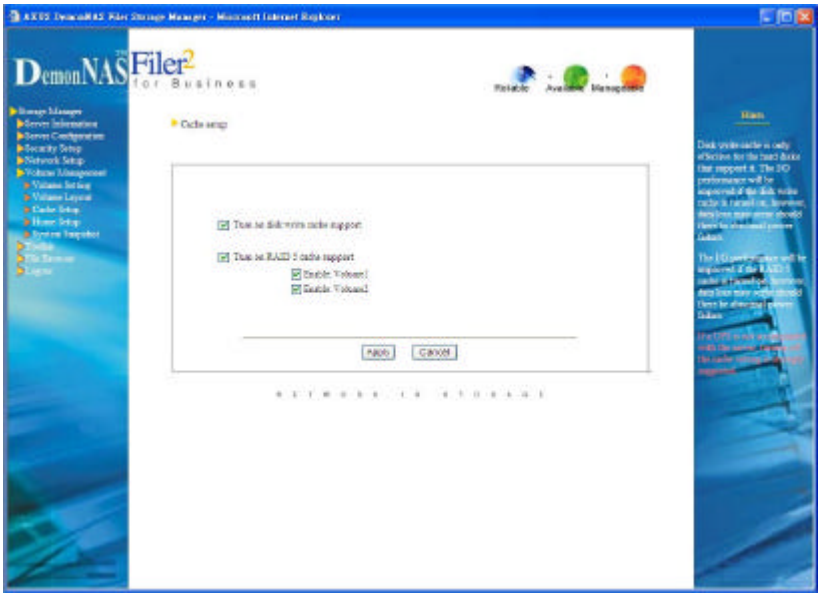
The integrity of file system will decide whether the data on the NAS server is read correctly. Even though file system check is applied after any improper shutdown, it may still lead to data lost. Hence it is strongly recommended that The NAS server is shut down properly.

# Volume Layout




This page shows the status of volume layout in the NAS server.

# Cache Setup



## Turn on disk write cache support

System administrator can turn on or off all the hard disk write cache here.

This setup will take effect only if the server hard disk supports cache memory. If the hard disk write cache is turned on, the system read/write performance will improve, but it may result in data loss if any unanticipated power failure occurs. If the system utilizes UPS, then we suggest that you turn on this selection. To check if the hard disk supports the cache memory, contact your hard disk dealer.

## Turn on RAID 5 cache support

In supporting RAID 5, save/retrieval activity requires data in multiple hard disk read/write to compute parity to maintain data security. To improve read/write performance, **DemonNAS Filer for Business** supports RAID 5 device-layer cache and data can be stored in memory temporarily thus is much faster than hard disk read/write activity. However, this function requires UPS to be effective for any unanticipated power failure that may result in data loss.

The system administrator has to reboot the system to make the RAID 5 Cache setting effective, and it will be applied only to the selected volume(s).

**TIP**

If the system doesn't have any RAID 5 volume when the administrator applies the *Turn on RAID 5 cache support* option, the RAID cache support will be turned on automatically on all future created RAID 5 volumes.

# Home Setup

When adding a new account into the *Users* group, the system will automatically create a home folder for this account. System administrator must specify the volume to store the home folder. But it is possible to save many accounts into certain volume causing the volume to carry heavy load or have inadequate space. This *Home Setup* page enables system administrator to easily manage user home folders.

After selecting a volume in *Volume Name*, the system will display accounts' home folders in the selected volume in the *Current User (home size)* column. Select accounts that require moving of home folders, select destination in *Move to Volume* and click *Move to*. After confirmation then click *Apply*.

Please note that the setting will be separated into different pages according to the number of accounts. If the account you are going to perform does not appear on the page, please select the page number at the bottom of the page to go to other page s.

**Tip**

The administrator cannot move users' home folders to other volumes when any user is accessing his/her own data online.

# Add New Storage

System administrator may install a new hard disk to enlarge storage space when the server accepts an extra hard disk. However, it is strongly recommended that the new disk has the same brand and product ID with the

existing one on the server and there is no DemonNAS Filer system on it.

# Toolkit

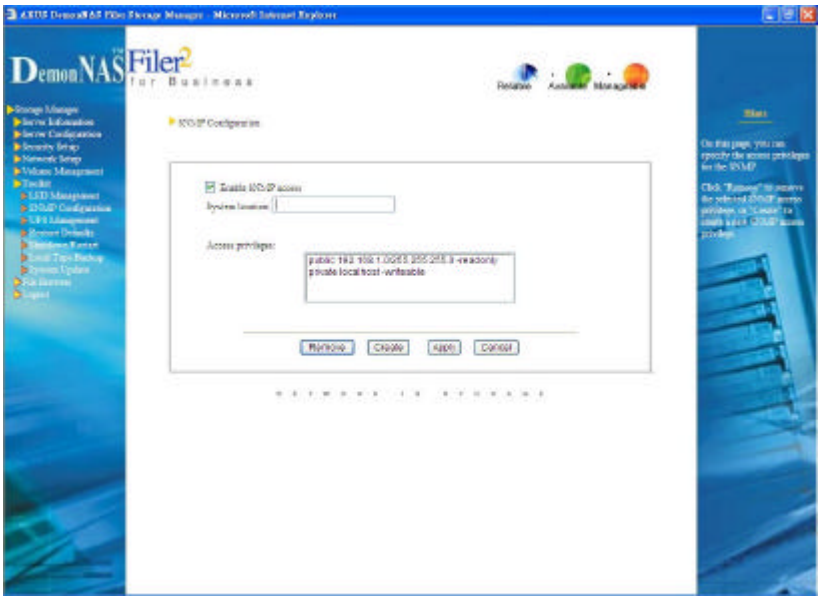
## LED Management

The system administrator can control the LED indicators from here.

The ID indicator is located on the front panel of the server. In the event of an emergency, the system administrator needs only to click the *Turn on ID* button on this page to turn on the ID indicator. Once the light is on, the system administrator can easily distinguish the problematic server in the group and quickly resolve the problem(s). Once the problem(s) has/have been resolved, make sure to click the *Turn off ID* button.

There is another emergency LED light on the front panel of the server. When an error occurs in the memory, system fan, HDD, or the system temperature, this light will be turned on. This emergency light will only be turned off once the problem has been resolved and the server has been restarted. However, in the event that the system temperature rises too high and later returns to normal, the excessive temperature warning indicator will not automatically be turned off. The system administrator must manually click the *Event Reset* button on this page to clear the LED indicator when he/she receives an email notice stating, “temperature restored to normal”.

# SNMP Configuration



Use this option to enable SNMP access. To do this, select *Enable SNMP access* and in the column *System location*, enter the geographical location of the NAS server; then click *Apply*.

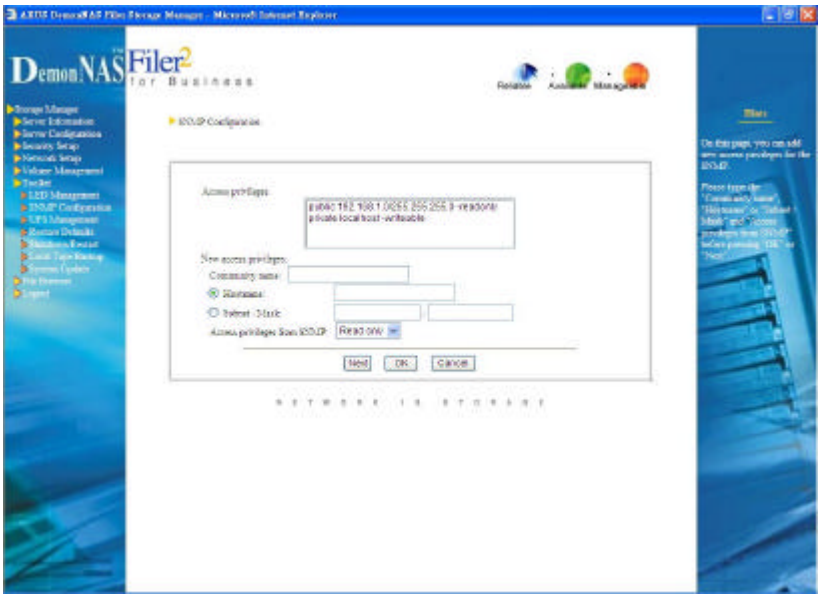
Each entry in *Access privileges* consists of three elements:

1. The first component is the community the NAS server belongs to, to be chosen by the system administrator.

2. The second component is the host or subnet of this community

3. The third element is the NAS server access privileges of the community's host or subnet through SNMP

## Adding SNMP Access Privileges



To add SNMP access privileges, click on *Create*. A new dialog will appear, where you can select a community name along with the host and Subnet /Mask ( e.g. 192.168.1.0/255.255.255.0) belonging to this community. Then select the *Access privileges from SNMP*: either *read only*, or *writeable. Read only* means the community hosts can only read information through SNMP, *writeable* means the community's hosts can also modify some read and write fields. Click *OK* to confirm or *Next* to add more privileges.

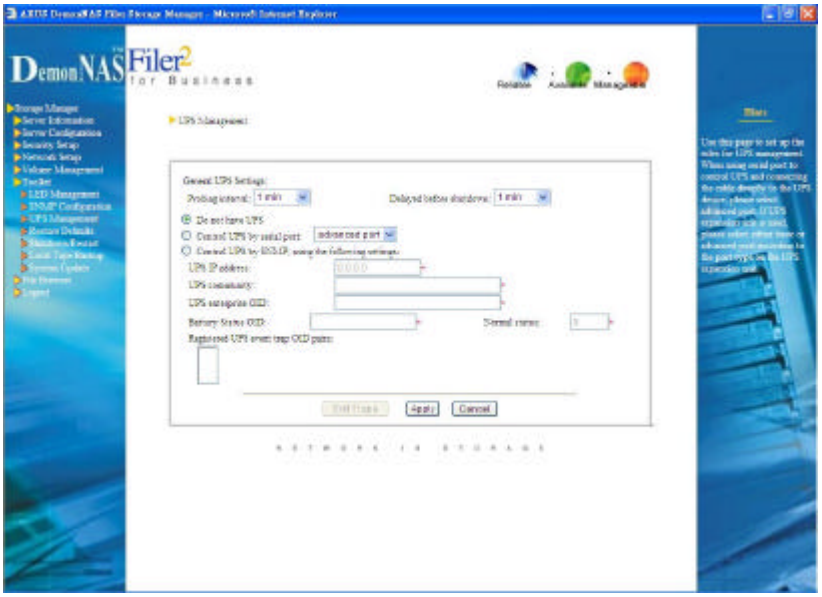
## Removing SNMP Access Privileges

To remove SNMP access, select an option under *Access privileges* (use Ctrl for multiple and Shift for continuous selection), and then click *Remove.*

## Modifying SNMP Access Privileges

To modify existing privileges, select an option under *Access Privileges* , remove it and add a new privilege.

# UPS Management




**DemonNAS Filer for Business** currently supports only APC Smart Series UPS, both via serial connection or SNMP.

## Control UPS by serial port

Connect the NAS server power cable to the UPS and connect APC RS-232 cable to COM1 on the server. In **Storage Manager**, go to *Toolkit→UPS Management* to configure *Probing interval* and *Delayed before shutdown.*

Select *UPS data transmission via serial port from the menu* on the bottom, and choose *advanced port* or *basic port* from the pull-down menu on the right side. Click *Apply* to finish.

If the power cable of the NAS server and APC RS-232 cable are connected to the UPS directly, select *advanced port*; if more APC RS-232 cables are connected to the expansion unit for multiple servers to share the same UPS and the NAS server has to be connected to the *basic port* on the expansion unit, select *basic port*.

**Tip**

1. When APC UPS expansion unit is used, please use the proper APC RS-232 cable to connect. If *advanced port* is selected, make sure that the 940-0024C cable is connected, and if *basic port* is selected, please connect the 940-0020B cable.
2. Advanced port provides automatic response function so that the system will detect when it does not find any UPS. Basic port does not have this function.

The system performs scheduled detection of UPS power supply according to *Probing interval*. The system will take the following actions if there is anything abnormal with UPS:

1. AC power failed: If AC power failed, the system will delay shutdown according to the settings in *Delayed before shutdown.* If the event is cleared during this period, the system will not shut down.

2. Low battery: If UPS battery is low, the system will shut down in five seconds. If the event is cleared during this period, the system will not shut down.

3. Overloaded: If UPS power supply is overloaded, the system will shutdown based on the setting of *Delayed before shutdown.* If the event is cleared during this period, the system will not shut down.

4. When the cable is connected to Advanced port, the system will shut down five seconds after UPS timeout. If the event is cleared during this period, the system will not shut down.

### Auto boot the NAS server after AC power restores

If you want the UPS to boot the NAS server automatically when AC power restores, please select the option *Reboot this server automatically after AC power is restored*.

Please note that when the option is selected, when AC power fails, the NAS server will first shut down based on the setting of *"Delayed before shutdown:"*, and then the UPS will shut down after 3 minutes. Thus if other machines share the same UPS with the NAS server, they will also lose power when the UPS shuts down, in this case, please properly configure the *"Delayed before shutdown:"* option of other machines.

## Control UPS by SNMP

Connect the power cord of the NAS server to the UPS and the UPS to the network. In **Storage Manager**, go to *Toolkit→UPS Management*, and select

*Control UPS by SNMP, using the following settings:*

1. Probing interval and Delayed before shutdown

2. *UPS IP address* and *UPS community*

   UPS equipped with SNMP faculties will be assigned an IP address. Enter this IP address in the respective column. In the SNMP user interface of the UPS terminal certain communities will be registered, each community containing one or more host names and IP addresses. These hosts can be trusted and can read information from the UPS. If you want to control the UPS via SNMP, you must register **DemonNAS Filer for Business** in one of the communities listed, then enter the name of the community in the *UPS community* field.

3. *UPS enterprise OID*

   This setting can be found in the MIB file of the UPS. If the UPS supports SNMP access, the manufacturer has added an MIB file to the documentation. Download the file from the manufacturer's web site if necessary. Look in the file for the *Private Enterprise Number.* APC's Private Enterprise Number is 318, so the value of this field should read *1.3.6.1.4.1.318*, whereby *1.3.6.1.4.1* is static and must not be changed. You can also use an SNMP program such as HP OpenView to browse through the MIB file and retrieve the *Private Enterprise Number*.

4. *Battery Status OID*

   This setting refers to the *battery status OID* in the MIB file. The value for the APC UPS is *1.3.6.1.4.1.318.1.1.1.2.1.1*. Enter this value, or the short form *1.1.1.2.1.1* , if you are using an APC product.

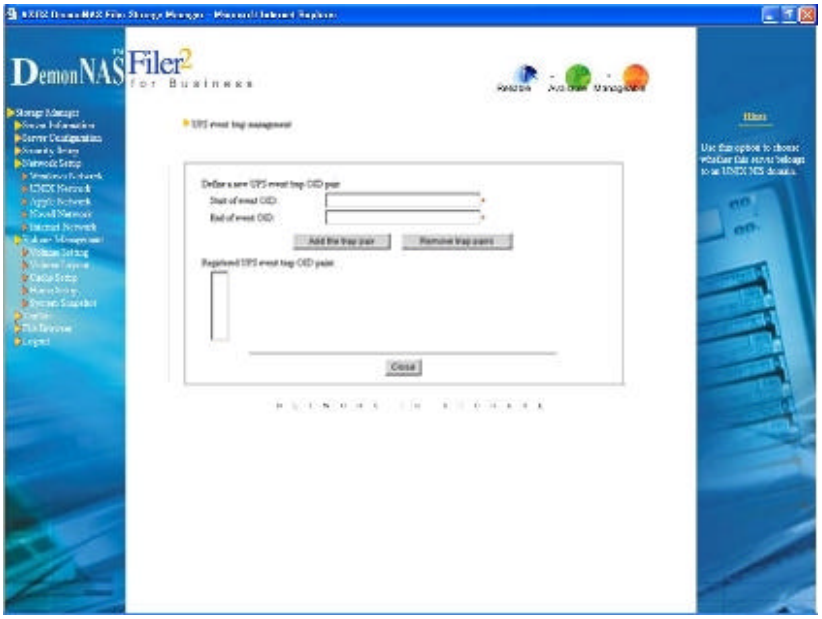
5. *Normal status*

   The *battery status OID* (see above) obtained from the MIB file represents a number of states, e.g., *2* for *battery normal*, *1* and *3* for *unknown* or *low battery* respectively.

   After items 4 and 5 are filled up, the system will probe the UPS in the interval chosen above and shut down in 5 seconds if abnormal battery status is detected.

6. *Registered UPS event trap OID pairs*

   A UPS with SNMP faculties usually has a trap function, used to detect anomalies in the UPS status without waiting for the scheduled probing signal. Click *Edit trap* to add or delete event trap OIDs for your UPS.




In *Start of event OID*, enter the critical event trap OID. Alternatively, use an SNMP program such as HP OpenViewto browse through the MIB file and obtain the trap OID. The value 1.3.6.1.4.1.318.0.5 for example stands for A/C power failed, switching to battery.

In the field *End of event OID* , enter the informational trap OID, e.g. 1.3.6.1.4.1.318.0.9 for A/C power restored. This field is optional, since many critical events do not permit resuming and require a system shutdown. Retrieve both values for *Start of event OID* and *End of event OID* for the MIB documentation of your UPS manufacturer.

**Tip**

After making the configuration above, the system will periodically probe the UPS status based on the "*Probing interval*", and shut down in the time as defined in "*Delayed before shutdown"* when abnormal events defined in "*Registered UPS event trap OID pairs*" occur.

# Restore Defaults

The system administrator has the option to restore factory defaults for all settings, or remove all user settings in the system. Four options are available:

1. Restore Server Configuration (basic, code page, notification): The **Storage Manager**'s Server Configuration will be reset to factory defaults.

2. Remove shared folders, and files in home folders

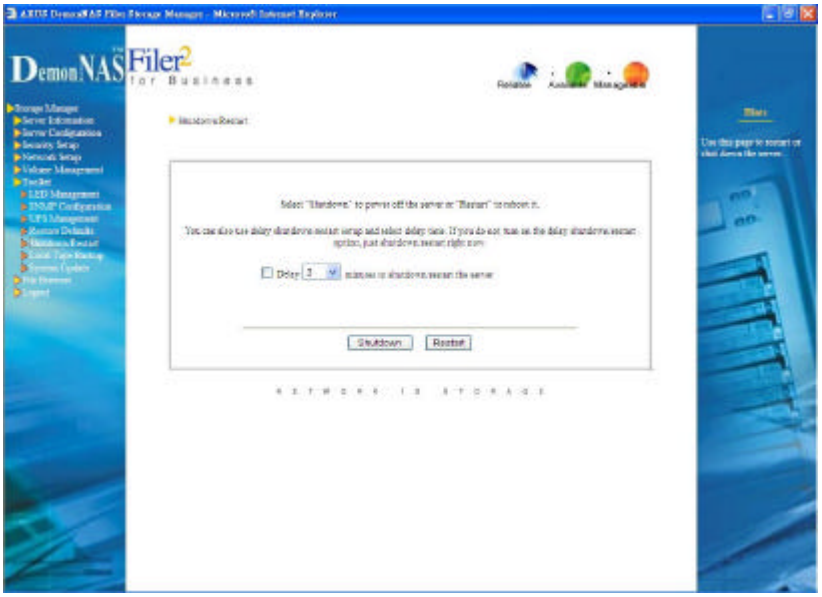
3. Remove all users, groups, shared folders, users' home folders, and their files.

4. Remove data on the server, including all above

**Tip**

1. Be careful when using the options on this page. All selected settings will be replaced by defaults or deleted.
2. If you choose to apply the first (*Restore Server Configuration*) or the fourth (*Remove server*) option, you must run *Quick Configuration* again. See Chapter 3, "Quick Configuration."

# Shutdown/ Restart




Use this page to *Shutdown* or *Restart* the server. You can also use the power switch on the NAS server. To preserve data integrity, never unplug the server before it has been properly shut down. System administrator can select the option *Delay xxx minutes to shutdown/restart the server* and the setup will be executed after the time specified.

Wait for the power LED to go off and the server to halt operation completely before unplugging and moving the server.

# Local Tape Backup

The NAS server supports the following tape drives. Please verify before using the device:

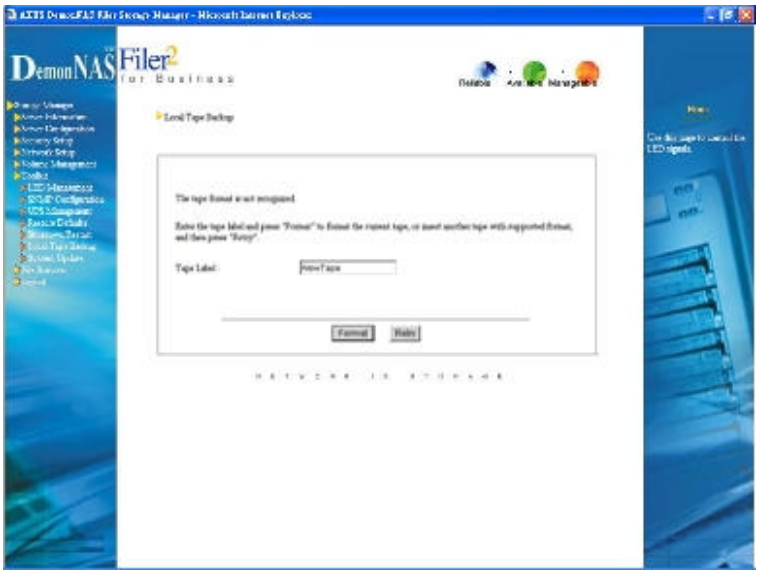
1. SONY SDX-700c
2. HP surestore dat 40
3. Tandberg DLT 7000
4. Tandberg SLR100
5. Quantum: SDLT320
6. VXA-2e

# Local Tape Backup

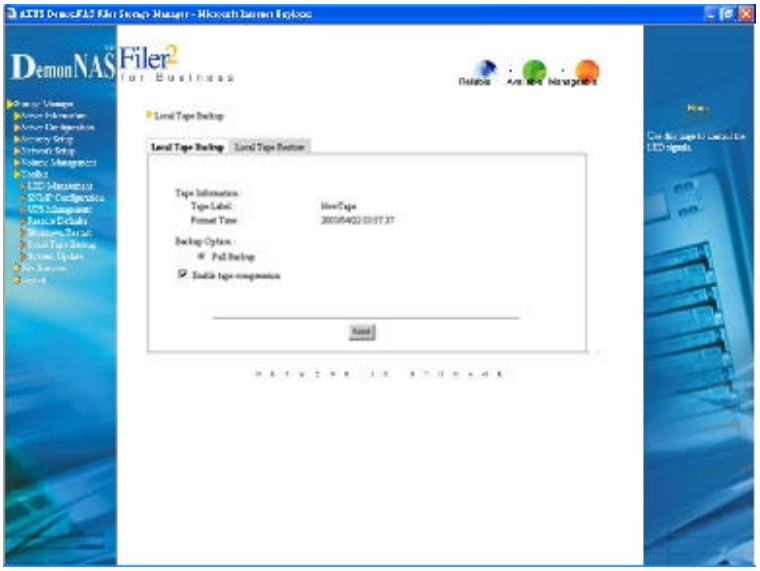
Before starting local tape backup, make sure the tape drive is properly connected to the NAS server, and the tape is inserted into the drive.

## First Backup

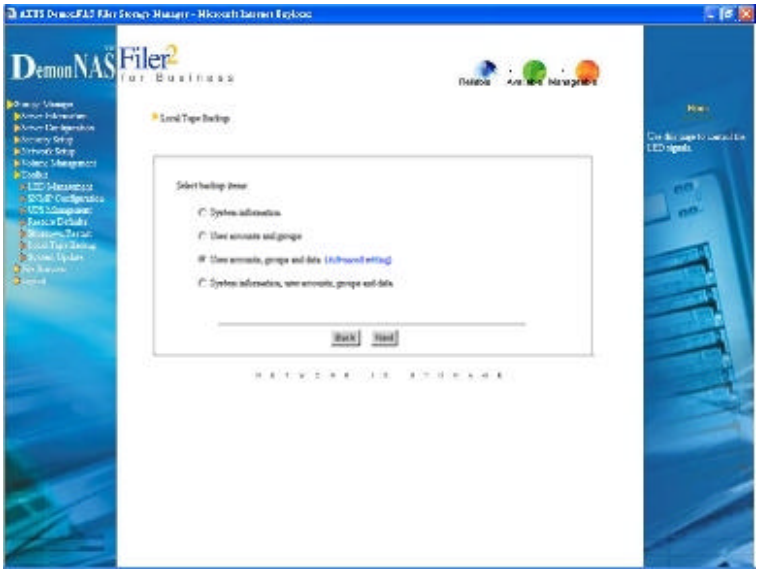
1. Formatting the tape: Click *Local Tape Backup* to go to the formatting setup page. In the *Tape Label:* field enter the tape label, which is limited to 15 letters, numbers, dots, underscores, and minus signs. After entering the label, click *Format* button to format the tape.




2. Since this is the first backup, by default in *Backup Option:* the system will select *Full Backup.* If you want to enable tape compression, please check the *Enable tape compression* option, and then click *Next.*

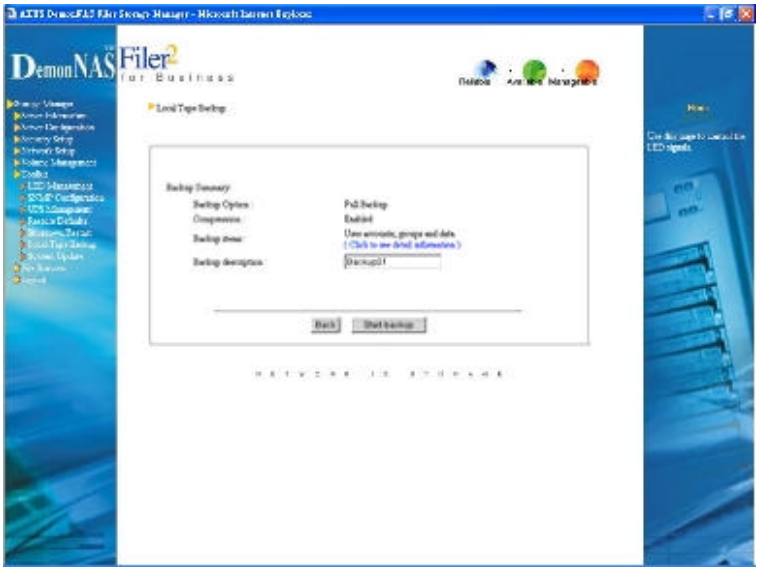


3. Select backup item and click *Next*.



Note that if you choose the 3rd option *User accounts, groups and data*, you can click the link A*dvanced Setting* at the right to further select the shared folders and user home folders you want to back up.

4. In the *Backup Description:* field enter the description for the backup. The description is limited to 15 letters, numbers, dots, underscores, and minus signs.



5. Click *Start backup*.

   If there is no sufficient space on the tape for the backup, the system will prompt the user to insert a new tape. After you insert a new tape, you can enter the tape label; click *Continue* button to complete the backup.

   Note that performing backup operation will overwrite the original data on the tape. Make sure you do not need the data on the tape before performing the backup.

6. Backup finishes.

### Non First Backup

If a complete backup has been done for NAS server, please follow the following procedure to perform backup:

1. Go to the *Local Tape Backup* page, select *Replace original data* or *Append data at the end of the tape* from the *Select a method to write the backup data:* option.

   If you select *Append data at the end of the tape*, the previous backup data can still be restored in the future. However, if you select *Replace original data*, the previous backup data will be no longer useable in the future.

2. Select *Full Backup* or *Incremental Backup* from *Backup Option:*.

   If you select *Full Backup*, please follow Step 2 to 5 in the Section *First Backup* to perform backup operation.

   If you select *Incremental Backup*, the NAS server will only backup the modified data since the last backup. To review the backup options used for the last backup, click the *Summary of the last backup option* link. After that, click *Next*.

3. Enter backup description and click *Start backup*.

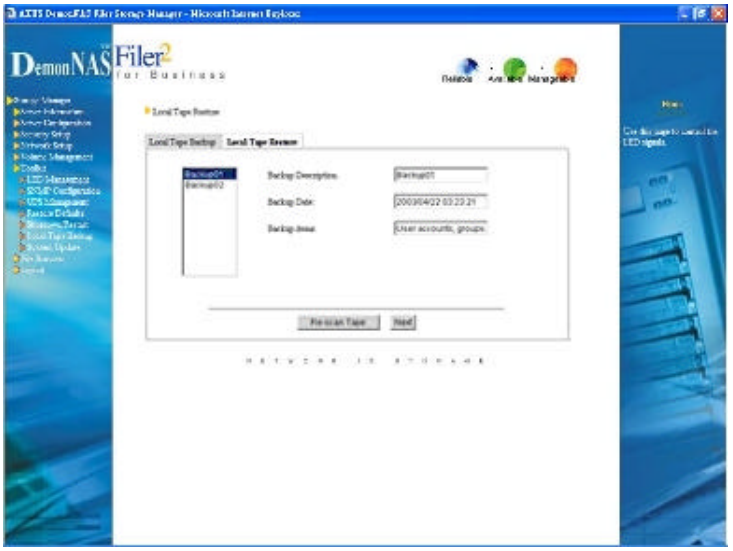
4. Backup finishes.

## Local Tape Restore

To restore data saved on the tape, follow the following steps:

1. Insert the tape to be restored into the tape drive. Make sure the tape drive is operating correctly and is properly connected to the NAS server.

2. Click *Local Tape Restore* to go to Restore Page. The saved backup items will be listed at the left side of the page, click on any item to view the detailed information shown in the right.

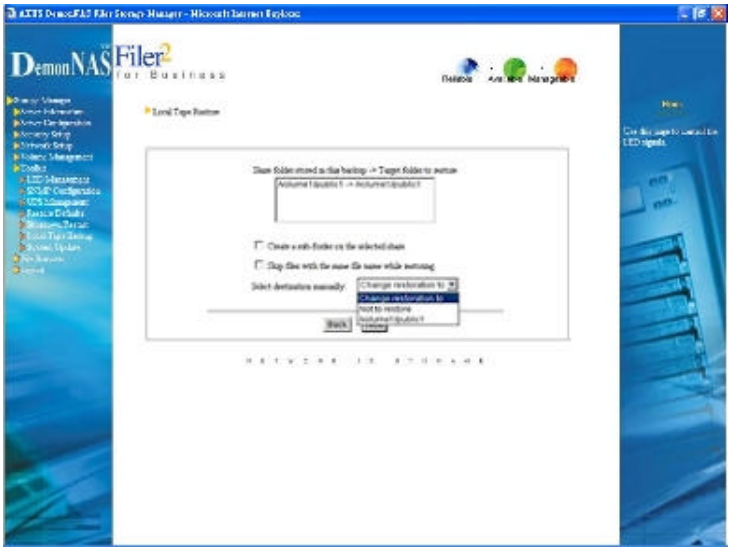


Note that if the backup item to be restored is located on more than one tape, insert the tapes in the same order during backup; so that the NAS server can read the complete backup data and perform correct restoration.

For example, if the size of the backup item "Backup111502" is 7GB, and during the backup process, the last 2GB of Tape A, the whole 4GB of Tape B and the first 1GB of Tape C were used. When you restore "Backup111502", you should insert Tape A, B and C, respectively.

3. Click the backup item to be restored, and then click *Next*.

4. At the top of the page all shared folders and user space to be restored and the target folders are listed.



Note that by default "/volume*n*/public*n*" will be restored to the corresponding "/volume*n*/public*n*", and "/home" to "/home". If there is

no corresponding target to restore, the default setting will be *Not to restore*. The system administrator can select any item to perform the following advanced setting (use Ctrl for multiple and Shift for continuous selection):

i. Partial Restoration: Click to select the items you do not want to restore on the backup item list, select *Not to restore* on *Select destination manually* pull down menu.

ii. Change restore destination: Click the item to be changed on the backup item list, and select new destination on the *Select destination manually* pull down menu.

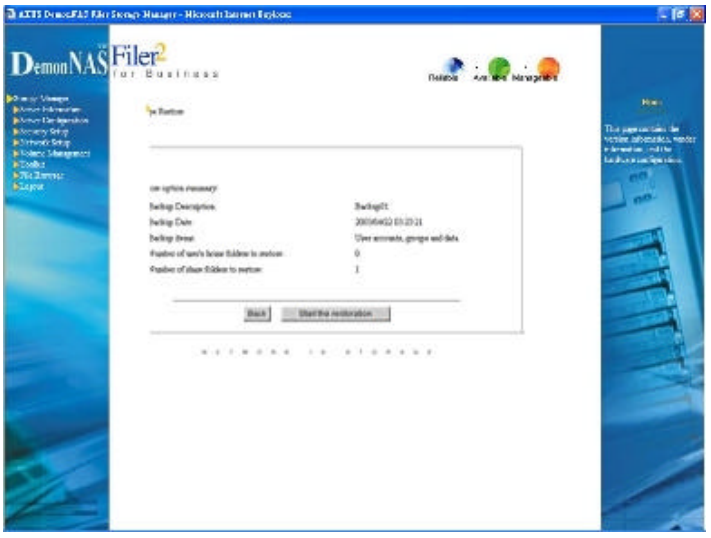
iii. Add in sub-folder: select the item to be set up on the backup item list, and check the option *Add in sub-folder*. By doing so the system will automatically create a sub-folder on the selected destination, and restore the backup item to the created sub-folder.

For example, if "/volume1/public1" is originally configured to be restored to "/volume2/public2", it will be restored to "/volume2/public2/public1" after selecting *Add in sub-folder*.

iv. Skip files with the same file name while restoring: Check this option if you don't want the files with the same name to be overwritten while doing restoration.

When set up is finished, click *Next* to proceed.

5. This page lists the restore option summary. If you want to make further changes, click *Back*. If you are sure to restore, click *Start the restoration.*




If the backup item to be restored is located on more than one tape, the system will prompt to insert the next tape after the first tape was restored. After inserting a new tape, click *Continue* button to perform the restore operation.

# System Update

Once you have obtained the OS upgrade, follow these steps to update your system:

1. Copy the update file (assume its name as *update.pat*) from any client computer to any shared folder in the NAS server.

2. Open **Storage Manager**, and go to *Toolkit→System Update* section.

3. Click *Browse* to select name and path of system update file.

4. Click on *Update*. The update process will start immediately and the system will restart automatically upon completion.

When upgrading the system, note the following:

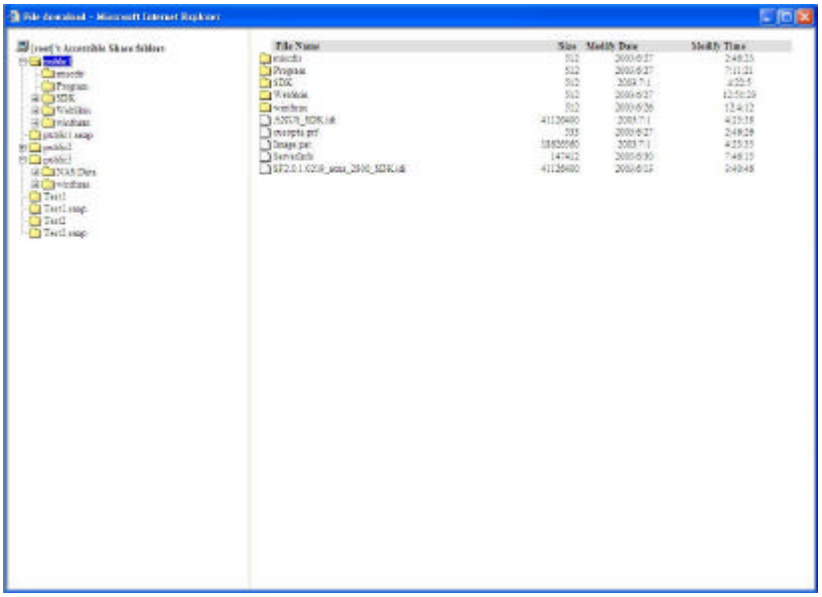
1. System update will not affect the files saved on the server. However, we strongly recommend that the administrator backup all the files on the server before updating the system.

2. The server cannot be accessed while the upgrade is running.

3. When the system is being updated, do not close **Storage Manager** window, turn off the server or remove the AC power, to avoid errors in the system operation.

4. During the upgrade, the connection between the client and the server will disconnect. The administrator can close the browser and wait for the upgrade to complete before re-connecting to **Storage Manager**. (The system will send an e-mail message informing the administrator that the server is back on line).

# File Browser

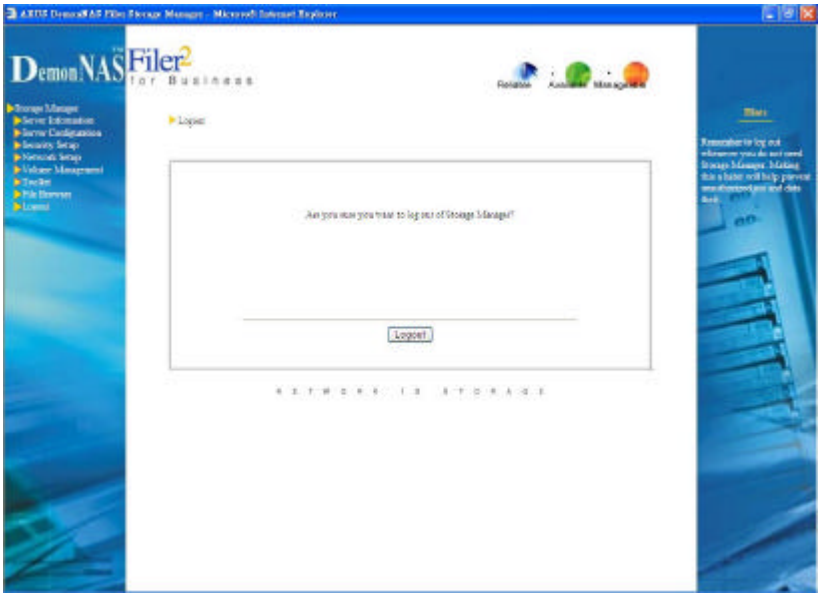


This function allows users to have remote access to files in the server through the Internet (HTTP protocol). The user can login to **Storage Manager**, enter the *File Browser* section and browse all the folders and files in each shared folder the user has access rights.

Please note:

To make sure files/folders on the NAS server can be displayed correctly on this page, please upgrade the IE browser version to 5.5 or above.

# Logout




In the interest of safety, remember to log out whenever you do not need **Storage Manager**.

So much for the initial configuration. Administrators and other users have three options to configure the server in the future:

1. Using a browser to connect to the server's IP address.

2. Running **DemonNAS Filer Assistant** to locate servers, then double-clicking on a server's name to start **Storage Manager**.

3. On Windows clients with NetBEUI support you can enter the server name directly into the address bar of the browser window.

If the user does not belong to the *admins* group, but is the local user in *users* or *guests* group, excluding the account *guest*, after logging in **Storage Manager**, only *Personal Information*, *Personal Settings*, *File Browser*, and *Logout* option will appear.

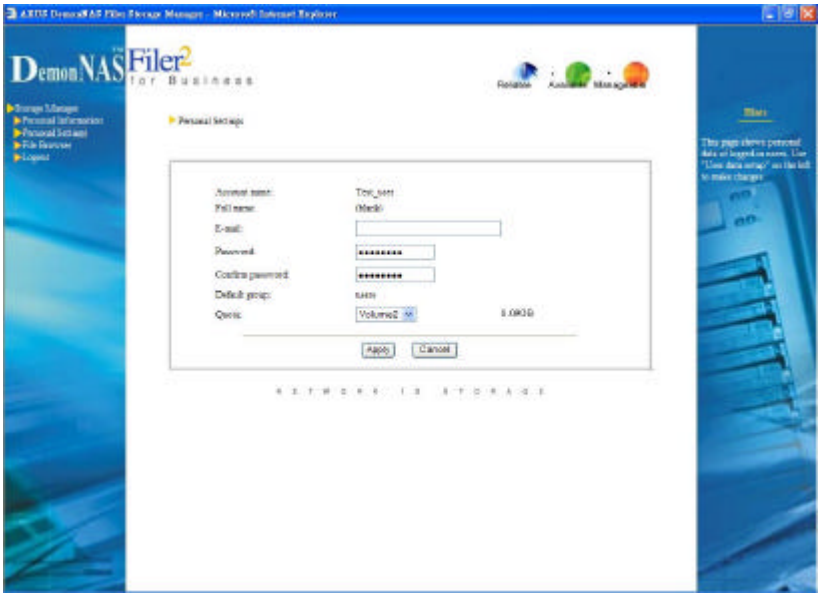
These users can modify their e-mail address and password with *Personal Settings* and access files through *File Browser.*

Please note:

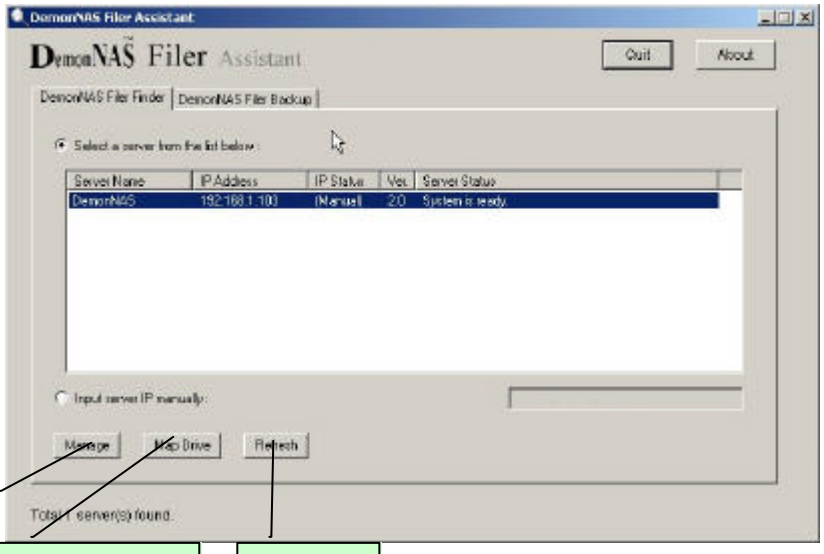
1. The function is only available for local account users. The account *guest* and domain accounts (i.e. non local accounts) cannot login and change

personal data via IE.

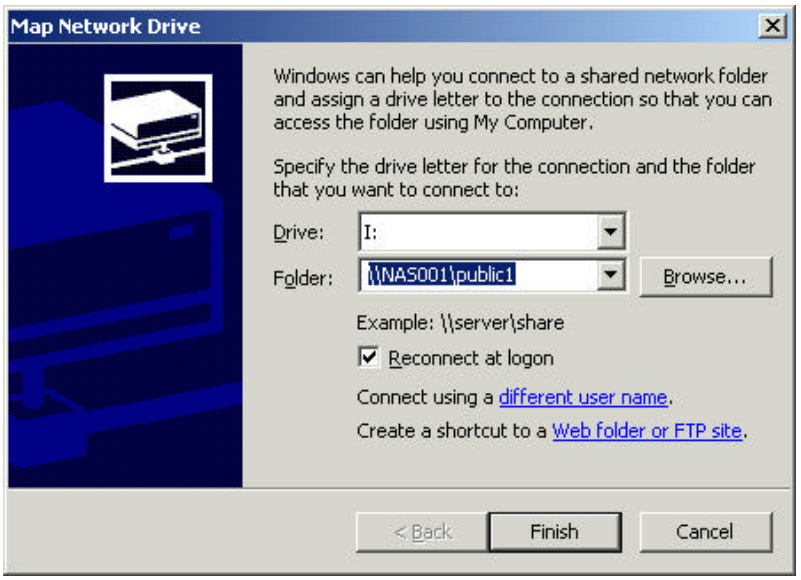
2. The *users* group members cannot change their *Account name* and *Full name*, only the administrator can make the changes for them.



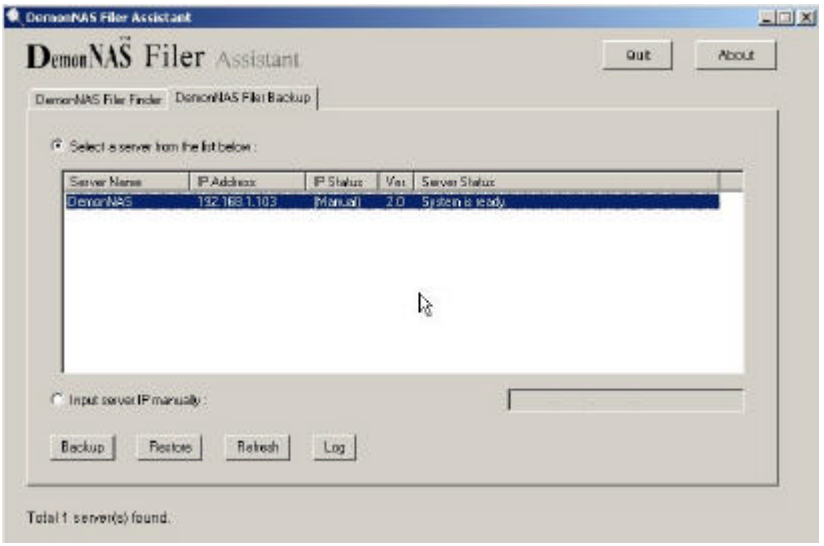
When adding the NAS server into a Windows or UNIX NIS domain, Windows domain or NIS server accounts are not able to modify their personal details through **Storage Manager**. If these users need to change some personal details, such as the passwords or e-mail, please contact the system administrator of the Windows domain or NIS server.



In addition, after setting up the network configuration, the system administrator or users can run **DemonNAS Filer Assistant** and click on the *Map Drive* button to connect all shared folders with access privileges as network drives. Please pull down the *path* column to find the accessible shared files on the NAS server.


Map Network Drive
Windows can help you connect to a shared network folder and assign a drive letter to the connection so that you can access the folder using My Computer.
Specify the drive letter for the connection and the folder that you want to connect to:
Drive:
I:
Folder:
\\NAS001\public1
Browse...
Example: \\server\share
Reconnect at logon
Connect using a different user name.
Create a shortcut to a Web folder or FTP site.
< Back
Finish
Cancel

# Chapter 5. Using DemonNAS Filer Backup




**DemonNAS Filer Backup** is a backup tool integrated in **DemonNAS Filer Assistant**. The system administrator can use it to backup data from the NAS server to other storage devices on the LAN, or to restore previously backed up data back to the NAS server.

There are four types of data available for the administrator to backup and restore:

1. *System information*: including basic configuration, network time synchronization, time zone setup, language setup, notification setup, security option, Apple network, Internet network, SNMP configuration, UPS management, and cache setup.

2. *User accounts and groups*: including account and group setup, root password, Windows network, and UNIX network.

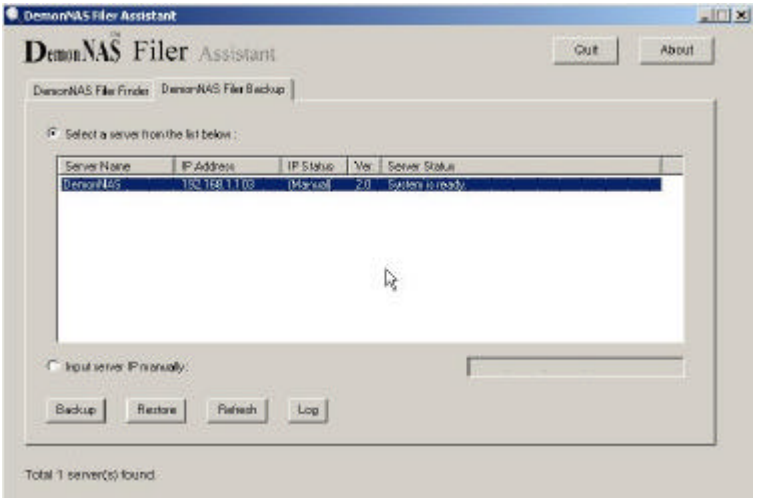
3. *User accounts, groups, and data*: including shared folder setup, account and group setup, root password, Windows network, UNIX network, and data on selected shared folders and user home folders.

4. *System information, user accounts, groups and data*: all data on the server, including the configurations and data mentioned above.

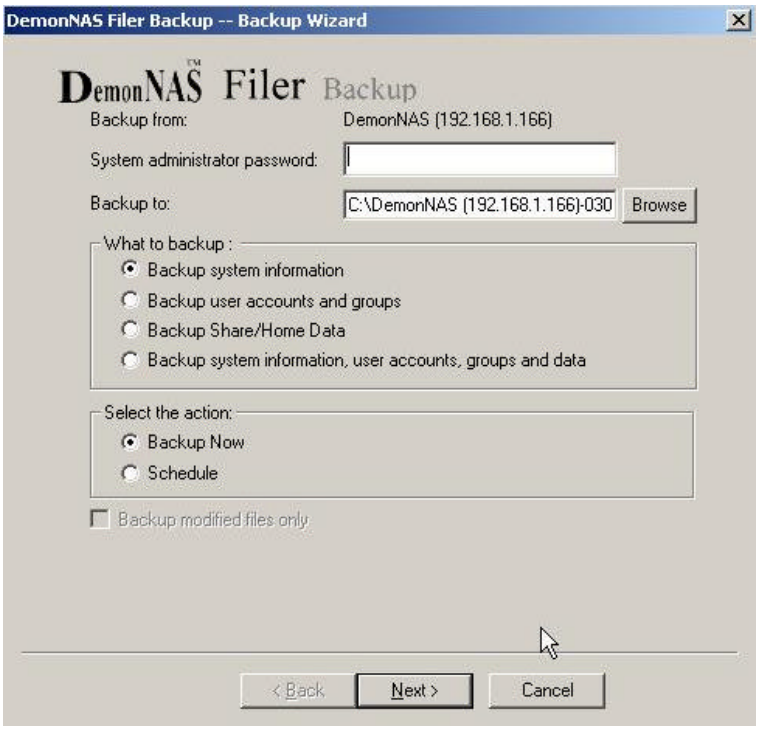
# Backing up data

To backup data, follow the steps:

1. Run **DemonNAS Filer Assistant**, click the **DemonNAS Filer Backup** tab, and select the server to be backed up from the server list, or select *Input server IP manually* and input the server IP.




2. Click on the *Backup* button to open the backup window.

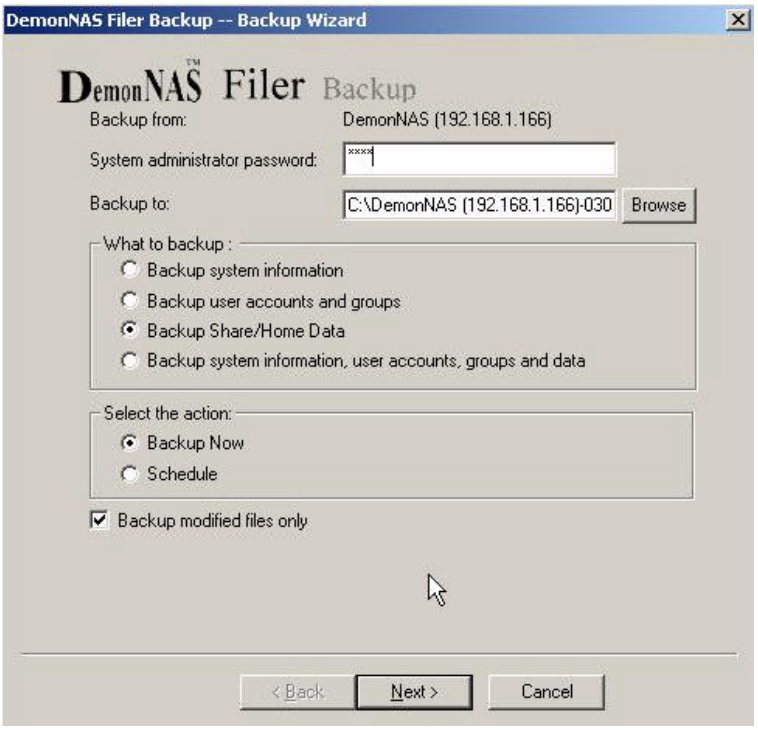


3. Enter the *System administrator (root) password*.

4. Click the *Browse* button to choose the backup path. By default the backup file is named as "server_name-mmddhhss.bkp", where mmddhhss stands for month-day-hour-minute of the backup time. The administrator can also specify the file name manually.

5. Choose the backup item from the *What to backup:* list.

   If the 3rd or 4th item is selected, an additional option *Backup modified files only* is available for the administrator to choose.

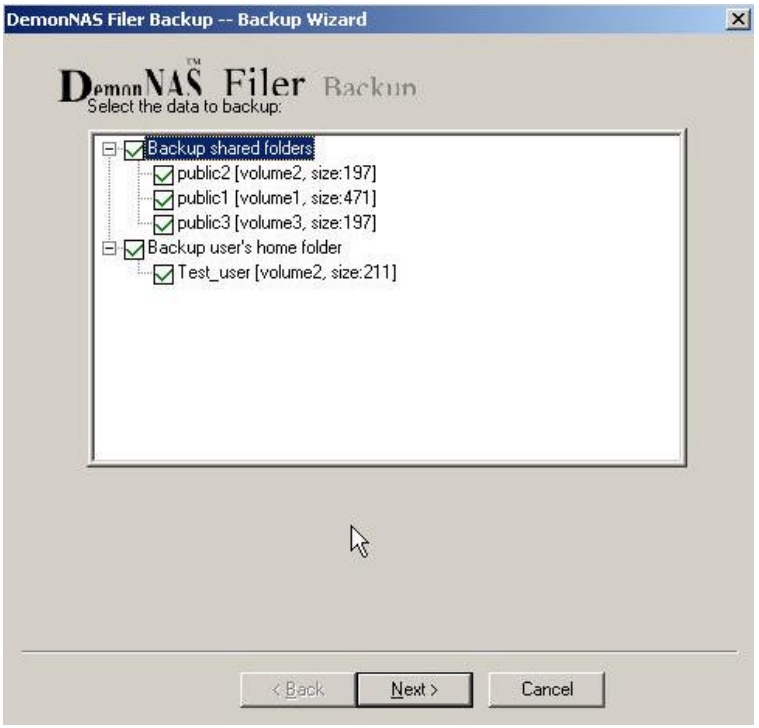



**Tip**

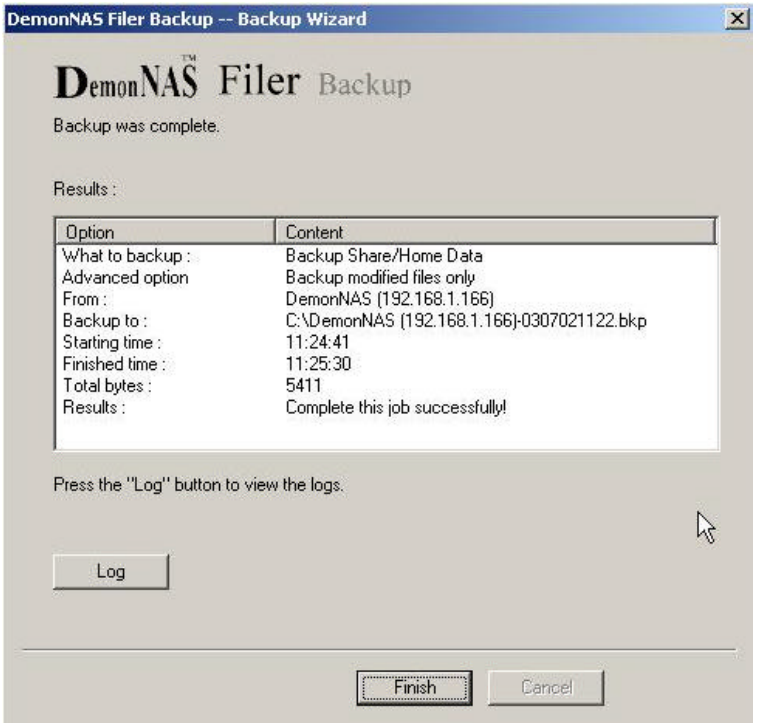
If the 2nd, 3rd, or 4th item is selected from the *What to backup:* list, user quota will not be backed up. In the future when the backup data is restored back to the NAS server, user quota will be set as "unrestricted", and administrator has to manually set the quota if needed.

6. Choose *Backup Now* in the *Select the action:* list and click the *Next* button.

   If the 1st or 2nd backup item is selected, the backup will start right after clicking the *Next* button, however, if the 3rd or 4th is selected, the administrator can further choose which shared folders to backup.




7. Check the shared folders to be backed up and click the *Next* button for the backup to begin.



Note:

FAT/FAT32 does not support files larger than 4GB. When running **DemonNAS Filer Backup** on Windows 98 clients with FAT/FAT32, or backing up files from the NAS server to another devices running Win dows 98 with FAT/FAT32, the system will automatically divide the backup file into several 4GB-size files, and name the extension of each file in the order of ".bkp", ".001", ".002", etc. Please store these files in the same directory. When restoring the data back onto the NAS server in the future, the administrator only needs to specify the ".bkp" file, and other related files will also be restored automatically without manually restoring every single file.

**Tip**

**DemonNAS Filer Backup** 2.0 can only backup data from version 2.0 NAS server. To backup data from a NAS server prior to version 2.0, please use the same version of **DemonNAS Filer Backup**.

# Scheduling Backup

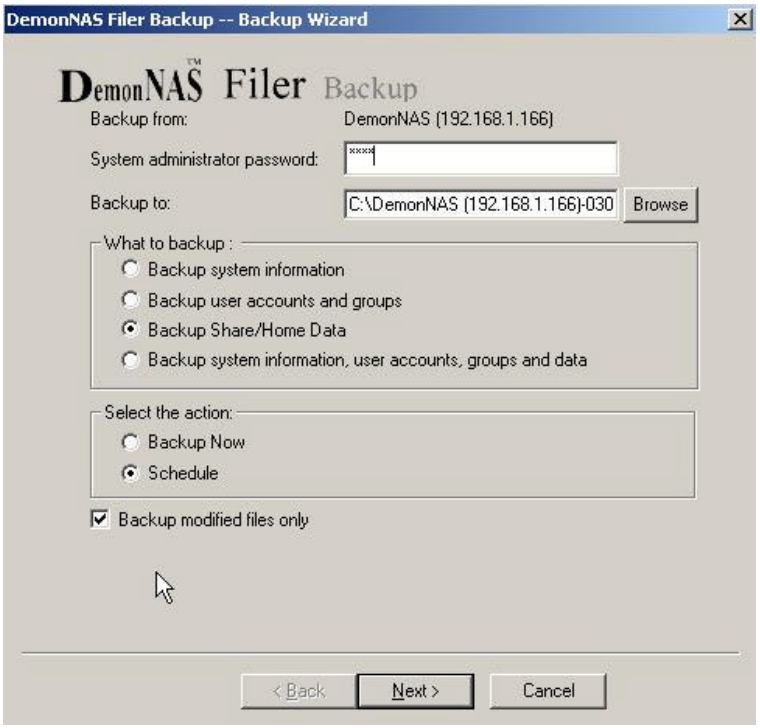
## Scheduling a Backup

You have complete flexibility in scheduling a custom backup with the following steps:

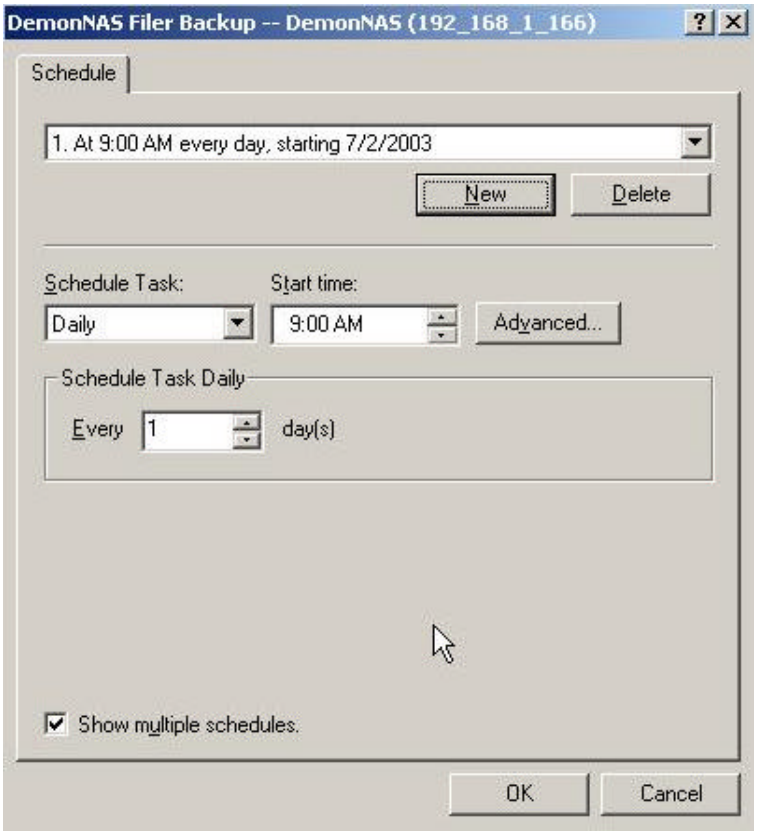
1. Repeat step 1 to step 4 of the section *Backing up data* mentioned above.

   When using Schedule to backup data, by default the file name is "Server_Name-mmddhhss.bkp", where mmddhhss stands for month-day-hour-minute of the backup time. The system administrator can also specify the file name, however, to ensure every scheduled backup can be reserved without being overwritten, if the specified file name doesn' t fit the system predefined format, an additional "-mmddhhss" will be appended to the file name.

2. Choose *Schedule* from the *Select the action:* list and click the *Next* button to go to the schedule setup window.




3. Make proper selections from *Schedule Task*, *Start time* and *Schedule Task Daily* options. If you want to make further settings, click the *Advanced* button to enter the advanced settings window.




4. After finishing setting, click *OK* to close the setup window.

Now you can close the **DemonNAS Filer Backup** Program. Windows will perform the backups according to the schedule.

# Scheduling Multiple Backups

You can also schedule multiple backups to perform backups according to different schedules. For example, if you want to backup "system information" at 12 o' clock on Mondays and "user accounts and groups" at 6 PM on Tuesdays, you can set up two different schedules, so the backups will be done accordingly.

To schedule multiple backups, follow the steps:

1. Create the first schedule according to the description on the "Scheduling a Backup" section.

   Take the NAS server *NAS001* for example, after the schedule is created, **DemonNAS Filer Backup** will generate the following items:

i. A schedule item "DemonNAS Filer Backup – NAS001" on *Schedule Task* of *Control Panel*"

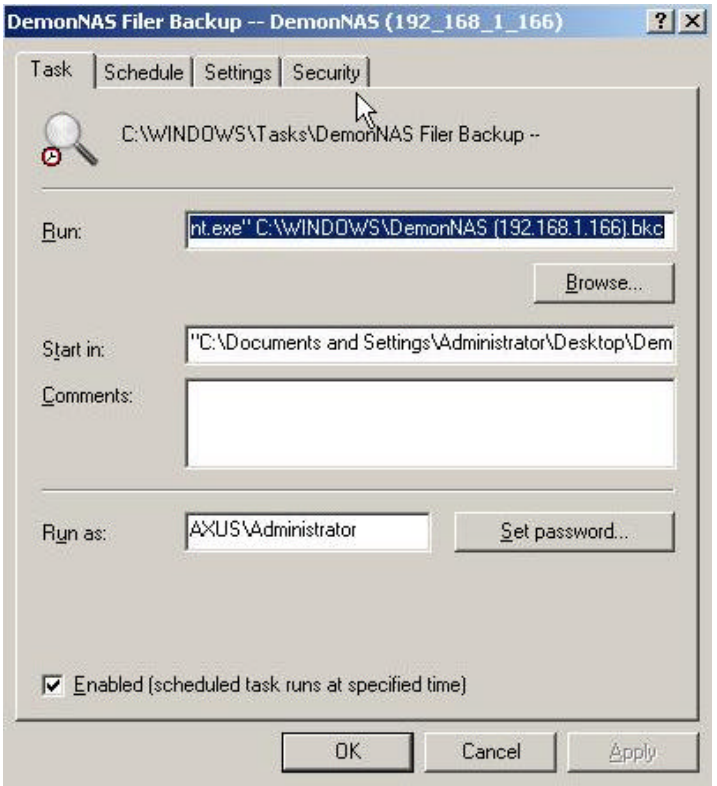
ii. A configuration file "NAS001.bkc" on the directory where the Windows OS is installed. This profile will record the time to perform schedule backup and the backup item.

2. Rename the following items:

i. Rename the schedule item "DemonNAS Filer Backup – NAS001" to an identifiable name, for example, "DemonNAS Filer Backup – NAS001-schedule1".

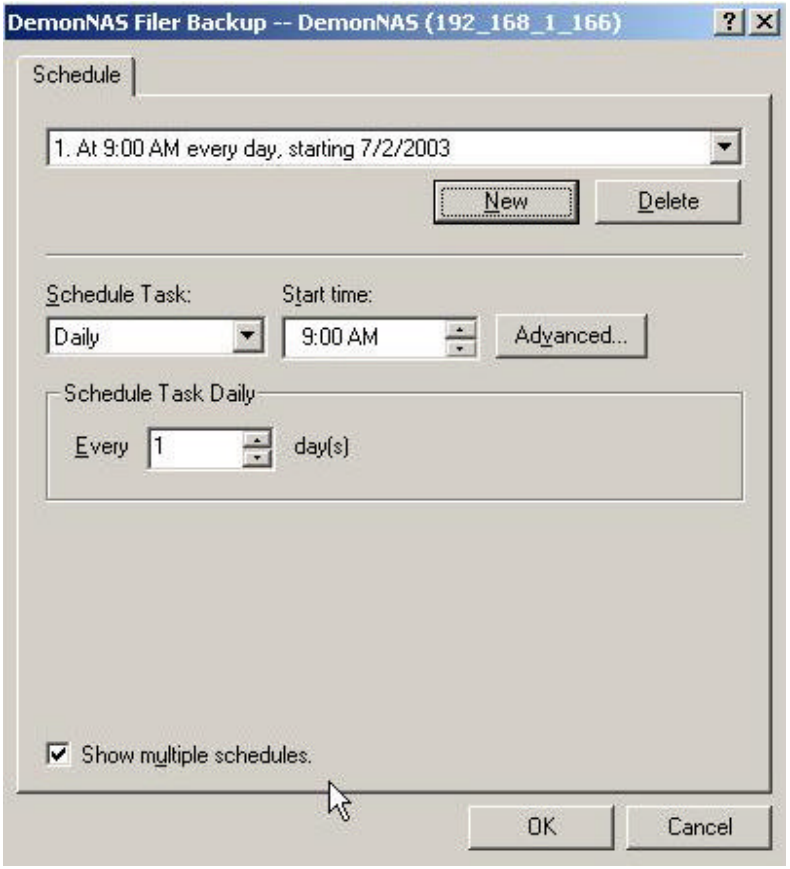
ii. Rename the configuration file "NAS001.bkc" to an identifiable name , for example, "NAS001-schedule1.bkc."

iii. Right-click "DemonNAS Filer Backup– NAS001-schedule1" and choose *Properties*. Change the configuration file name "NAS001.bkc" that appears on *Run* item to "NAS001-schedule1.bkc". Please note that the changed name of the configuration file should be identical with the exact configuration file so that the schedule task can perform correctly.



## Deleting Schedule

If you want to delete predefined schedule, go to the schedule page, check the *Show multiple schedules* on the bottom. After this *New* and *Delete* buttons will be displayed on the top. Press the *Delete* button to delete the schedule.

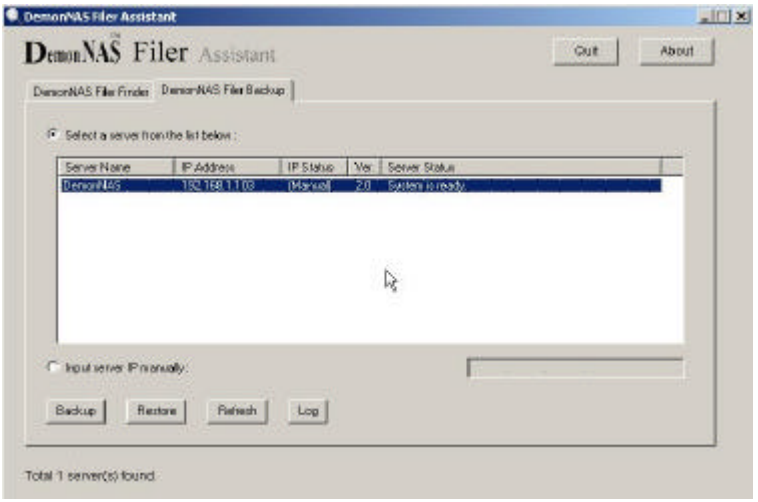



If you have set up multiple schedules, you can only delete the last created schedule from the schedule setup page. If you want to delete all schedules, go to *Schedule Task* on *Control Panel* to delete all created schedules directly.

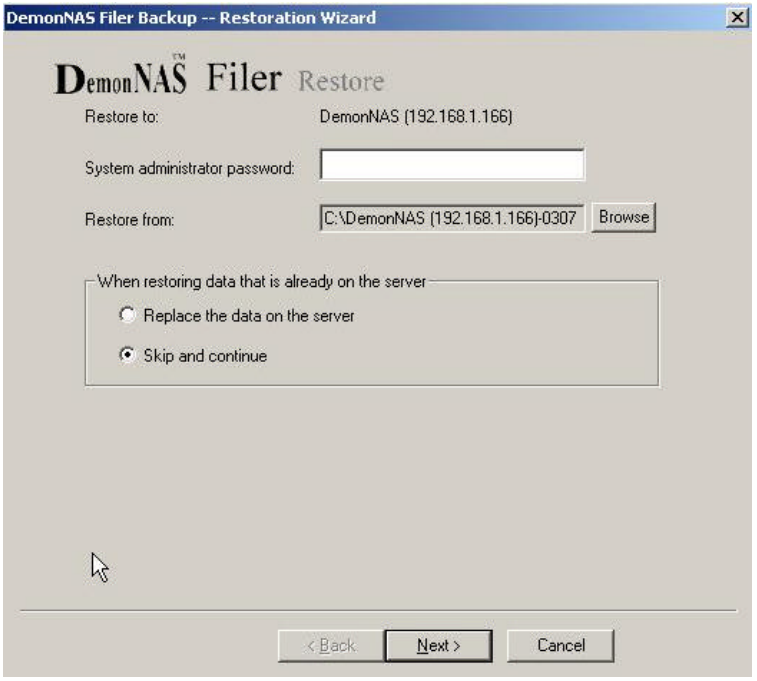
# Restoring data back to the server

Follow the steps below to restore data to the server:

1. Run **DemonNAS Filer Assistant**, click the **DemonNAS Filer Backup** tab, and select the server to restore data to from the server list, or select *Input server IP manually* and input the server IP.




2. Click the *Restore* button to open the restoration dialogue.




3. Enter the *System administrator (root) password*.

4. Browse for the backup file to restore form the *Restore from* item. If previously only changed data was backed up, restoring each ".bkp" file chronologically is necessary in order to restore the NAS server to a designated date.

5. Choose to "*Replace the data on the server*" or "*Skip and continue*" when restoring data that is already on the server.

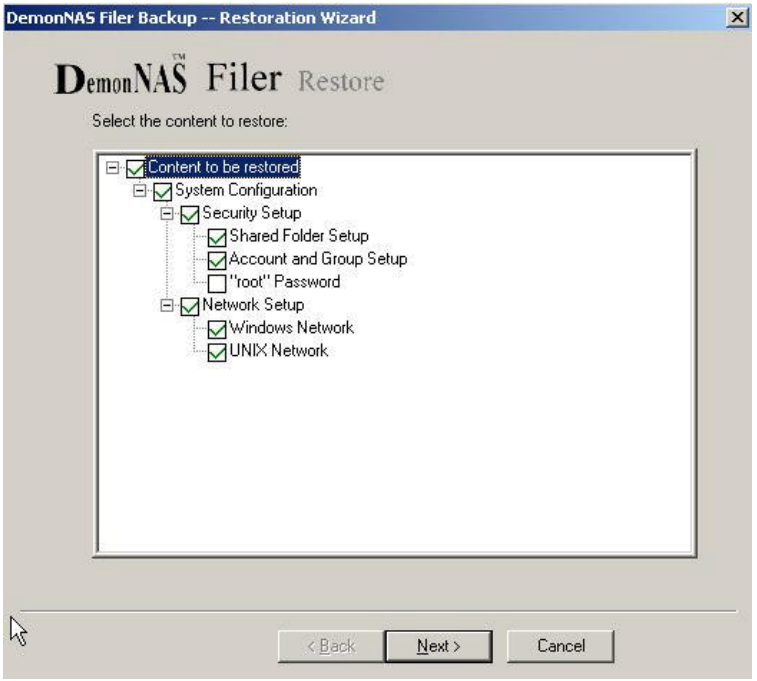
With "*Replace*" mode, "shared folder" is the comparison basis. For the share folders with the same name, the system will replace all data in the folders automatically.

With "Skip and continue" mode, "file" is the comparison basis. When a shared folder on the NAS server has the same name with that in the ".bkp" file that is to be restored, the system will not skip this folder; instead, it merges the data of both folders and skips the files with the same name. The only exception is:

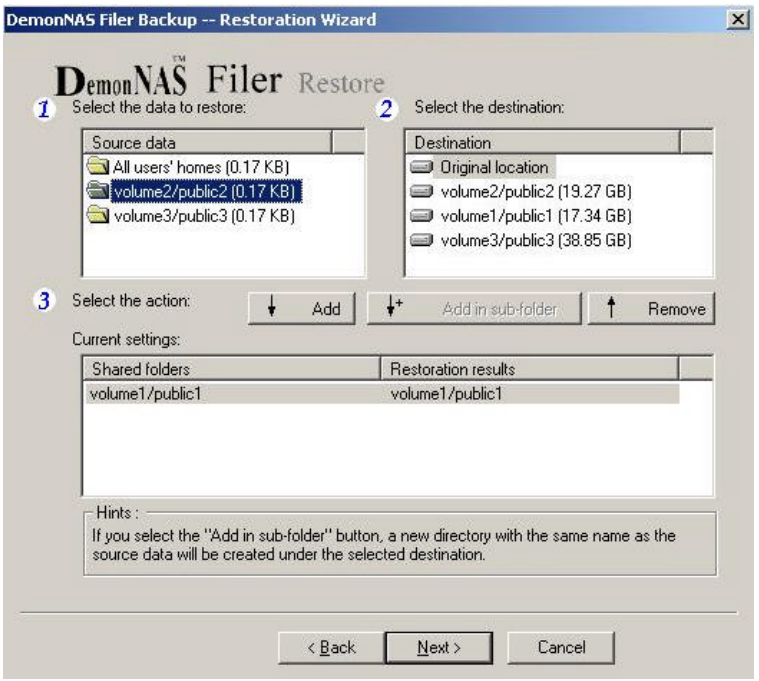
For user's home folder, if some home folder on the NAS server and that in the ".bkp" file do not belong to the same user, this folder will then be skipped for security reasons and will not be merged by the system.

6. Click *Next* to proceed.

7. Select the items to restore and click *Next* to start to restore data.



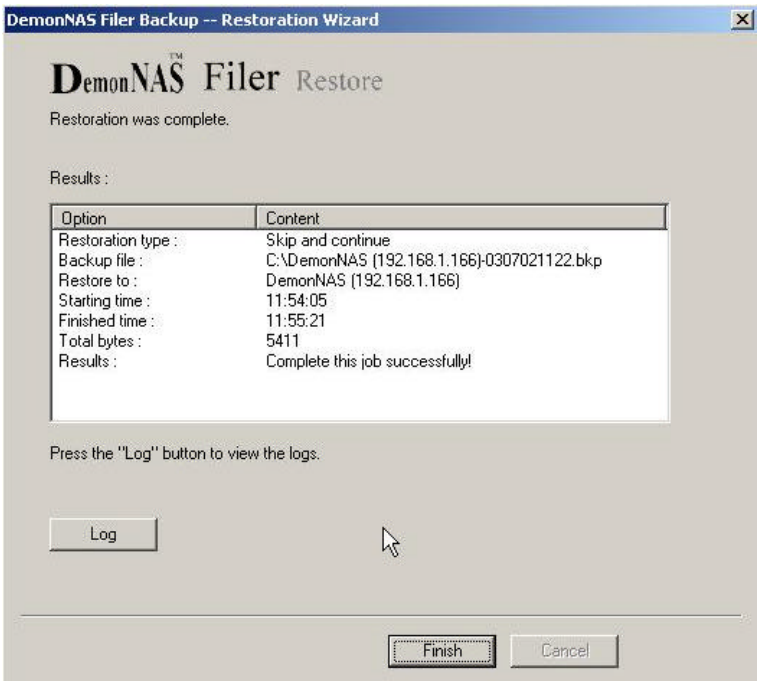

8. If the backup file contains data of shared folders, you can further specify the path to restore these shared folders.




By default the program will select all source data in the *Select the data to restore:* column and *Original location* in the *Select the destination:* column, however, you can change the setting as your need. After the change is made, click the *Add* or *Add in sub-folder* button to add the setting to the list below, then click *Next* to start the restoration.

Please note that for the users' home folders, a sub-folder will be created in the destination location either *Add* or *Add in sub-folder* is chosen.

9. Restoration finishes.




Note:

1. When restoring data back onto the NAS server, please verify there is enough storage space on the NAS server for data restoring; otherwise the restoring process will fail.

2. When backing up/restoring data, many temporary files will be generated in the first volume of the system, therefore the backing up/restoring cannot be performed if the free storage space in the first volume is less than 100MB.

**Tip**

The system will take the first created volume for default volume. To set a volume as the default volume, go to *Security Settings → Security Options.*

If the default volume crashes, the system will take the earliest created volume among the existing ones as default volume and the same rule applies repeatedly.

3. To restore the data on DemonNAS Filer 1.1 to DemonNAS Filer 2.0, follow the steps beneath:

   i. Backup the data on **DemonNAS Filer** 1.1 with **DemonNAS Filer Backup** 1.1.

   ii. Upgrade **DemonNAS Filer** 1.1 to **DemonNAS Filer** 2.0.

iii. Restore the backed up data onto DemonNAS Filer 2.0 with **DemonNAS Filer Backup** 2.0.

1. When the system fails to backup/restore data on the NAS server, the system administrator will receive an e-mail with an error code notifying the data backup/restore failure. The administrator can also go to *system log* tab of **Storage Manager** and search for the error code in the log file.

# Chapter 6. Using DemonNAS Data Replicator

Backup is one method necessary to ensure data completeness. But people are often too busy to backup regularly. In order to make users backup more efficiently and on a timely basis, **DemonNAS Data Replicator** can fully automate the backup process from Windows client to the NAS server. It can:

1. Monitor file folders of Windows clients and perform immediate backup of selected folders to the NAS server;
2. Password-protect files to make them more secured;
3. Compress backup files in order to save storage space on the NAS server;
4. Provide version management function and save up to 20 file versions in the NAS server;
5. Provide tag management function, tag the most representative version, save up to 20 tags;
6. Restore files from the NAS server to client computer when needed in the future, making file backup, management and protection easy.

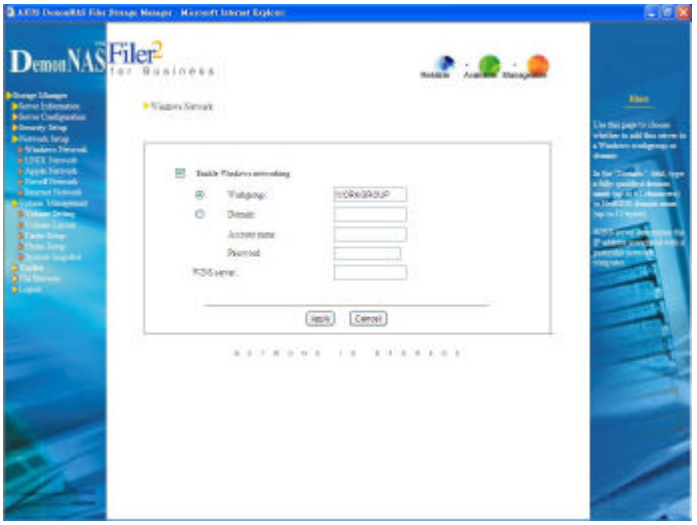
## Before you begin

### Set up the NAS server

Before you begin using **DemonNAS Data Replicator** , network administrator must set up the NAS server on the LAN, and create accounts for all users of **DemonNAS Data Replicator** on the NAS server.

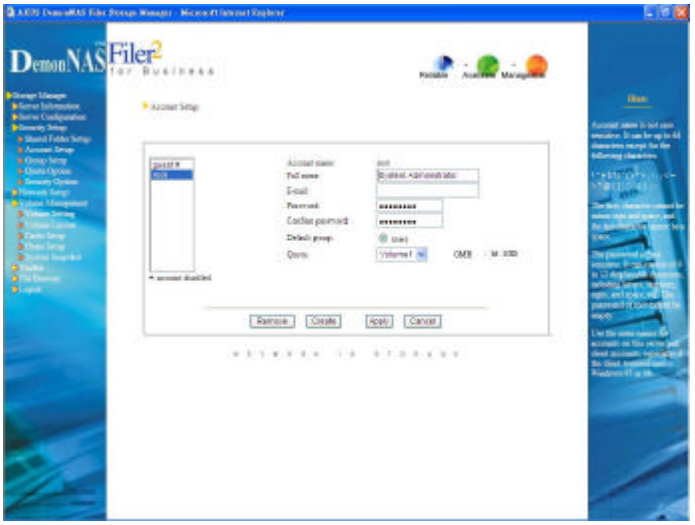
Please note when setting up:

1. Network Setup



Please Enable Windows networking in Network Setup→Windows Domain of **Storage Manager**.

2. Account Setup

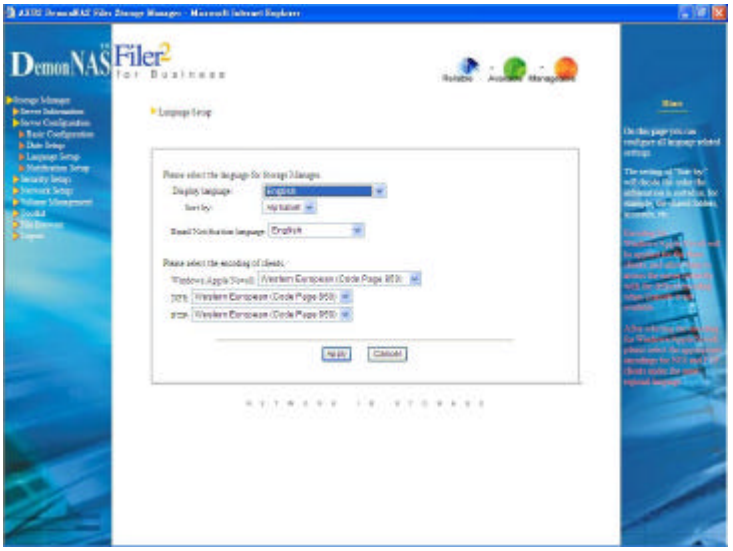


**DemonNAS Data Replicator** allows user to backup files to any shared folder with full access right in the NAS server. But due to security consideration, we urge user to backup files to his/her own home folder in the NAS server to prevent other users from unintentional deletion, modification, and use of these files. Thus, in addition to creating account for **DemonNAS Data Replicator** users in the NAS server, we suggest system administrator to assign these users to the *users* group so that each user can have his/her home folders only he/she can access.

In addition, when a Windows NT/2000 user desires to save file to the NAS server, Windows operating system (OS) will ask him/her to key in account number and password in the NAS server to authenticate his/her identity. But when a Windows 98/ME user accesses the NAS server,

Windows OS will capture directly the account the user used to login to Windows and will only ask user to key in his/her password. If the account the user used to login to Windows client station does not match the account in the NAS server, the user cannot use the NAS server because of mismatched identification. Therefore, in order to make management easy, system administrator must keep the account in the NAS server and Windows client consistent.

3. Language Setup.



Please make sure the NAS server and the Windows client running **DemonNAS Data Replicator** use the same encoding. A wrong setting may result in problems when accessing data.

# DemonNAS Data Replicator Basic Requirements

1. 5MB Hard Disk Space

2. Operating System: Windows 98/ME/2000/XP

3. Optimal Screen Resolution: 1024*768 or above

4. The Windows client running **DemonNAS Data Replicator** has to support Microsoft Networking over TCP/IP protocol, and can be connected to the NAS server through physical network medium (e.g. hub, switch, etc.).

# Setup DemonNAS Data Replicator

Please run "Setup.exe" program and install **DemonNAS Data Replicator** to your hard disk according to the instruction given on the screen.

**TIP**

For smooth **DemonNAS Data Replicator** installation, shut down all running programs or remove the old version of **DemonNAS Data Replicator** prior to installation.

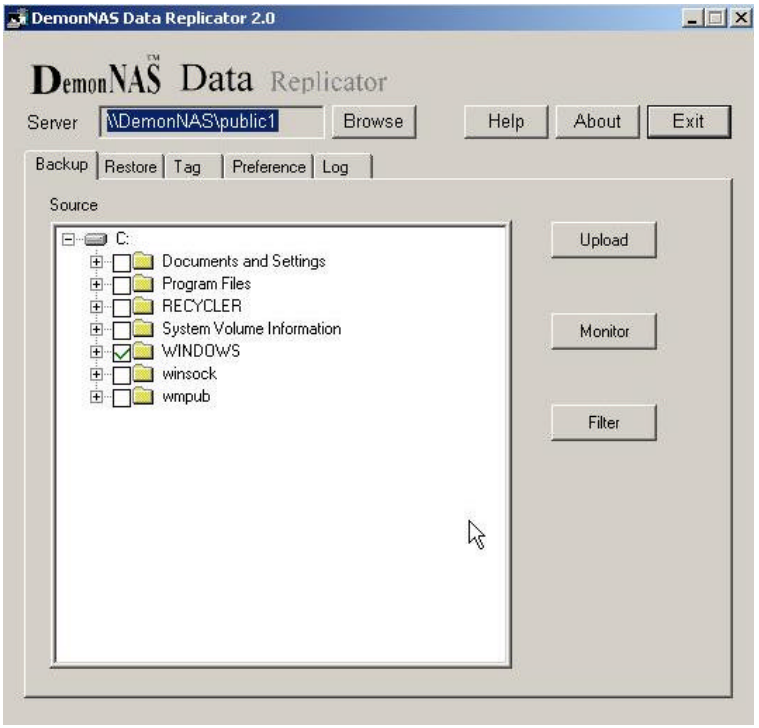
# Start Using DemonNAS Data Replicator

## Backup Windows client data to the NAS server

### First-Time Use - Run Complete Backup

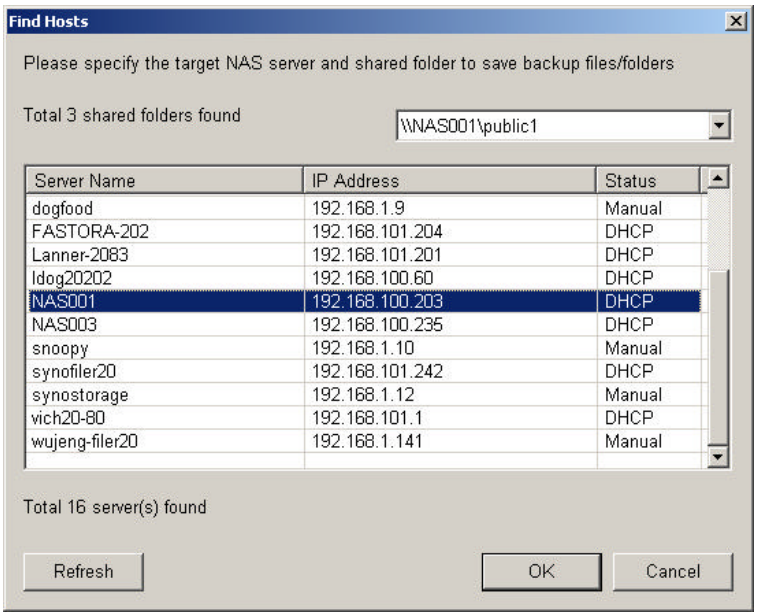
When running **DemonNAS Data Replicator** the first time, user must first backup all the files in this machine's file folders to the NAS server before modified/new versions can be monitored.

1. Start the Backup tab.



2. In the *Server* column, select the destination to store backup files. Click the *Browse* button to display the search page and select the NAS server and shared folder where you wish to store your backup files. After the selection is complete, click *OK* to return to the previous page.

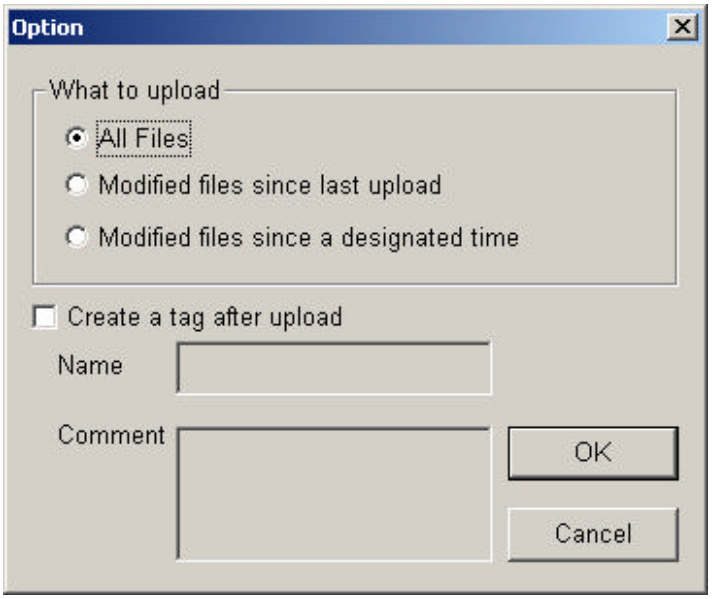
   The column at the top of the search page will list all shared folders a user have read/write access to. But due to security consideration, we urge user to backup files to his/her own home folder in the NAS server to prevent other users from unintentional deletion, modification, and use of these files.




3. Select those file folders of this computer you wish to backup/monitor in the tree structure below.

   Please note: you can run other **DemonNAS Data Replicator** functions only after you have setup the NAS server and file folders of this machine.

4. Click the *Upload* button on the right side to display the dialogue window below:




Because this is the first time you use **DemonNAS Data Replicator** for backup, please select *All Files* from the *What to upload* column.

If this version has a special representative meaning, user may select the option *Create a tag after upload* so that after the upload is complete this version can be created with a tag to allow for easy re storation in the future.

**DemonNAS Data Replicator** allows the user to create up to 20 tags. The purpose of tag is to help user record version of specific point in time. For example, if a software engineer has already completed program version 1.0 and is prepared to start coding version 2.0, to this engineer version 1.0 is the version with special representative meaning. While completing all version 1.0 program files, he/she can create a tag for these files at the specific point in time. In case any problem is encountered while modifying version 2.0, the engineer can easily restore all 1.0 program files to his machine for further modification.

5. After you have completed the selection, click *OK* button. **DemonNAS Data Replicator** will backup all the files in the selected file folders to the NAS server designated.

Please note:

1. **DemonNAS Data Replicator** only targets its monitoring on file folders and sub file folders in the local hard disk. The monitoring does not include network disk drives or other external storage devices.

2. **DemonNAS Data Replicator** does not support monitoring of files under the root directory in this machine.

## Monitor File Folders in Your Own Computer

After first-time backup, **DemonNAS Data Replicator** can help its user to continue monitoring file folders in his/her computer. Any changes made to files in the file folders will be saved to the NAS server.

To monitor the file folders of your own computer, please select file folders of your machine and the NAS server to save backups, and then and click the *Monitor* button. **DemonNAS Data Replicator** will be minimized to the system tray to perform monitoring.

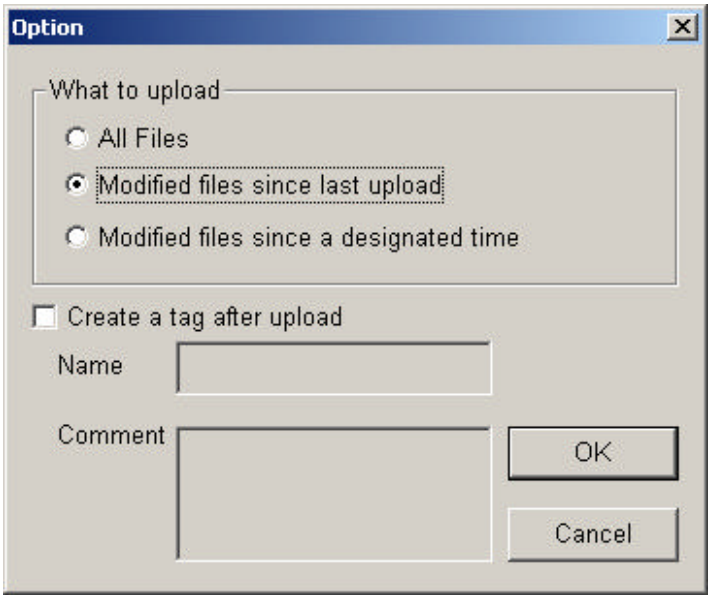
**TIP**

The file(s)/folder(s) at the destination will not be deleted as you delete those monitored on your computer. To delete them, go to the "Resume" tab in **DemonNAS Data Replicator** and delete the file/folder by right-clicking the mouse.

## Backup changed data only

When files at the client are large and changed frequently, if every time any change made to these files are updated automatically to the backup in the NAS server, this may cause busy network traffic. Due to consideration of performance efficiency, after running the complete backup in the first instance user may choose not to run automatic monitoring, instead the user should manually upload the changed files to the NAS server.

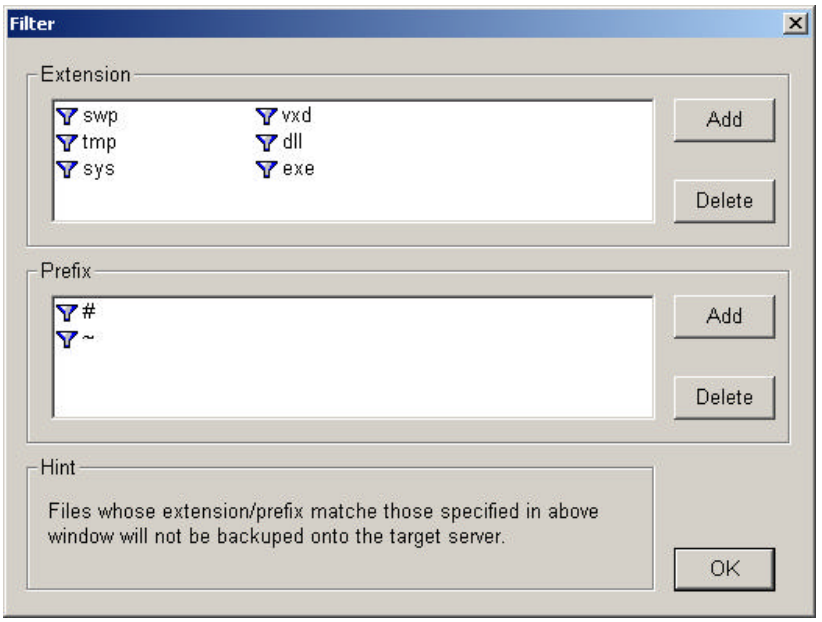
To backup any changed files, after you have selected the file folders on your machine and the NAS server to save backups, click *Upload* button on the right, select *Modified files since last upload* to backup any changes made since last update or *Modified files since a designated time* to backup any changes since a specific point in time.




## Files Filtering

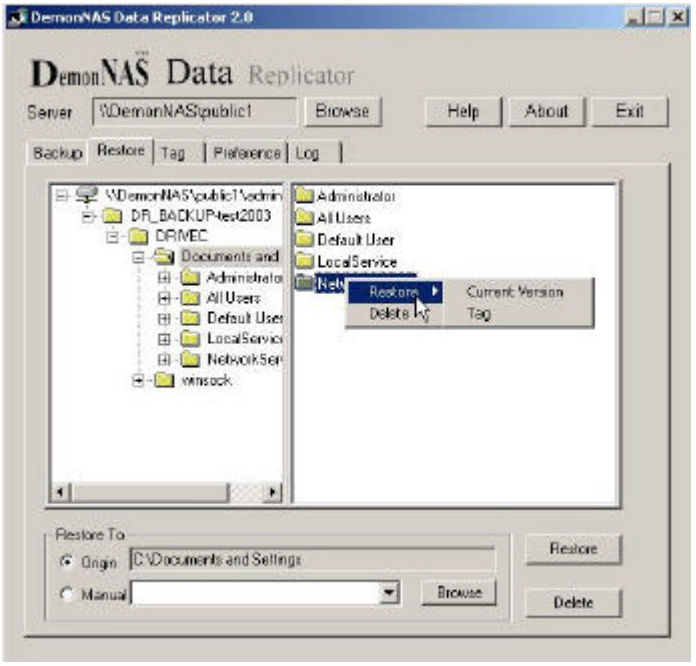
User may choose not to backup non-essential files (e.g. .tmp or temporary files created by Windows client)

To setup not to backup by file type, click *Filter* on the right and add specific file *extension* or *prefix* to avoid backing up of files with the extension/prefix.



# Recover files from the NAS server to Windows client

1. Select the *Restore* tab. In the right column is the display of backup file directory in the NAS Server. **DemonNAS Data Replicator** by default uploads Windows client files to the directory on the NAS server: *\DR BACKUP-client computer name\the disk of the client computer*. The column on the right displays all subdirectories/files in each directory.




2. Select at the bottom of the page the destination of the restored files. (Path of your own mac hine)

3. Select files or file folders from the right-hand column, click the right mouse button, click *Restore* in the browse function or click the *Restore* button at the bottom of the window.

   When restoring an individual file, you can only choose to restore by specific version, and when restoring more than one file or file folder, because of different versions for each file, you can only choose to restore the *Current Version* or tag.

# Tag Management

**DemonNAS Data Replicator** allows the user to create up to 20 tags. The purpose of the tag is to help user record version of specific point in time. For example, if a software engineer has already completed program version 1.0 and is prepared to start coding version 2.0, to this engineer version 1.0 is the version with special representative meaning. While completing all version

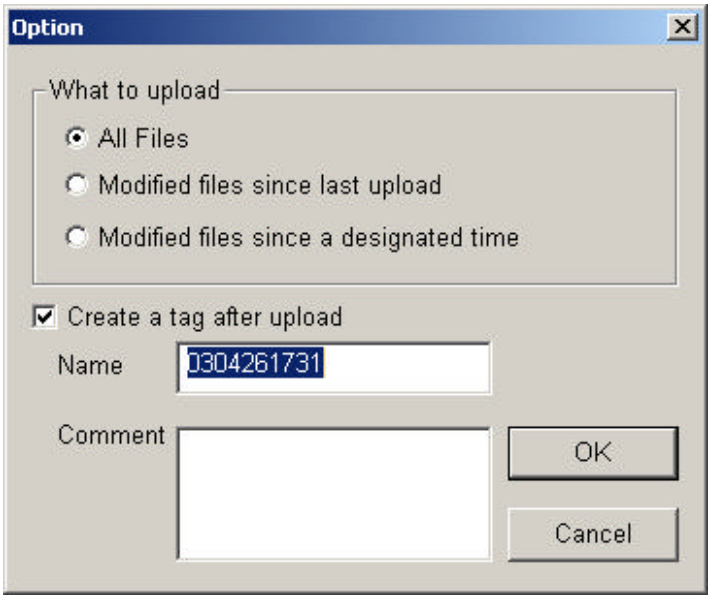
1.0 program files, he/she can create a tag for these files at the specific point in time. In case any problem is encountered while modifying version 2.0, the engineer can easily restore all 1.0 program files to his machine for further modification.

Once the number of tags has reached 20, if the user wants to add more tags, it is required to manually delete unwanted tags from the previously created tags. **DemonNAS Data Replicator** will not delete the oldest tags automatically when the user creates more than 20 tags.

The tag name is defaulted to the date and time the tag is created. For example, "0111072228" means the tag is created on November 7, 2001 at 10:28 pm. User may change the tag name according to his/her preference.

There are two ways a user can create a tag:

1. Add new tag after files upload.




User can create new tag to uploaded files when uploading files in the *Backup* tab.

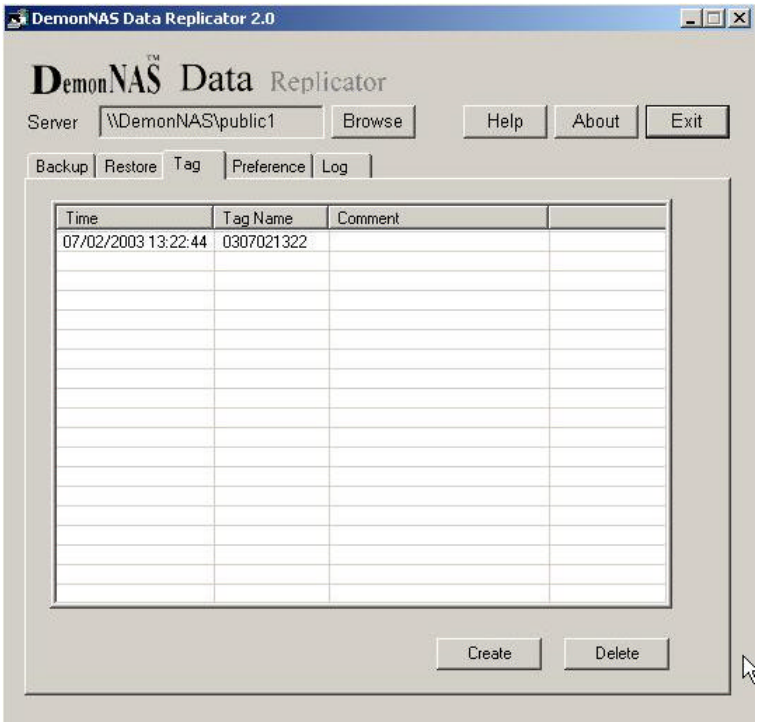
Please note, when creating tag the most updated versions of files in backup directories in the NAS server will be saved. The two examples will illustrate this point:

i. During uploading of *All Files*, if you click *OK* after selecting *Create a tag after upload*, **DemonNAS Data Replicator** will create a tag for all files uploaded to the NAS server after upload.

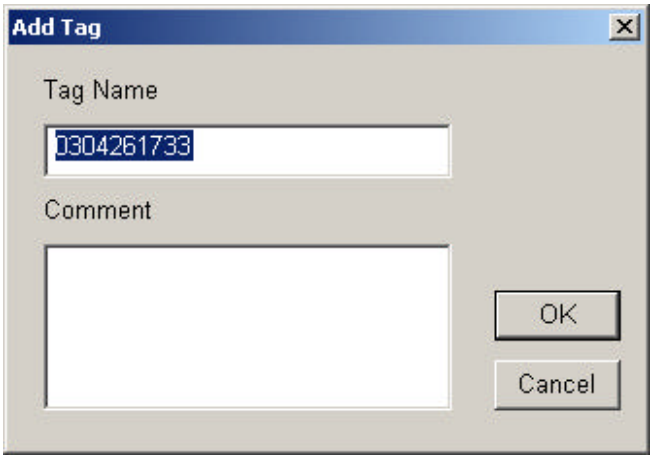
ii. When uploading *Modified files since last upload* or *Modified files since a designated time* , you can select *Create a tag after upload*

and click *OK*. Accordingly, **DemonNAS Data Replicator** will create a tag for all files uploaded (the most updated version) and the latest version of files not uploaded (due to no change) but already existed in the NAS server.

2. Create a new tag in the *Tag* tab.

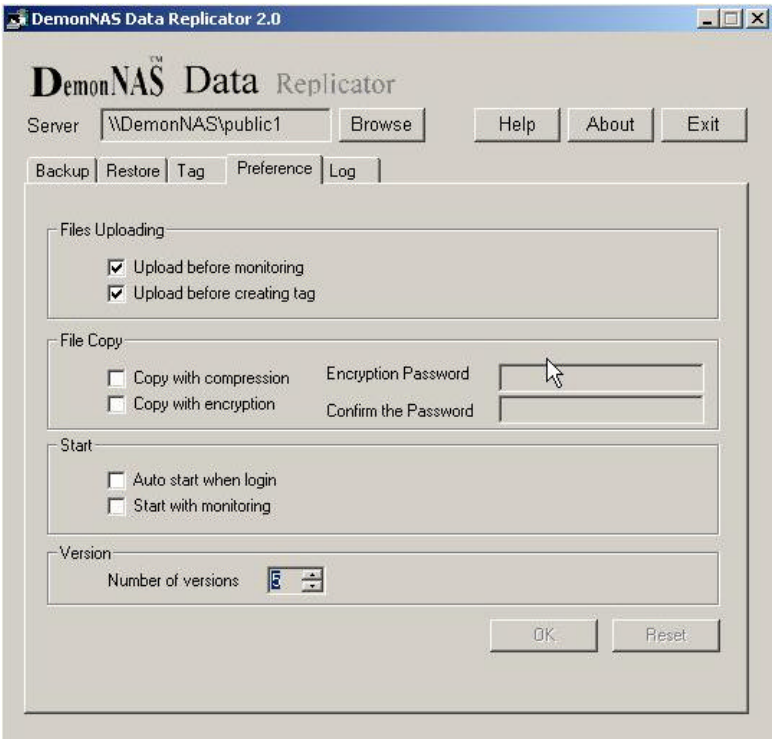



Select *Tag* tab, click *Create* button, and then click *OK* after key in *Tag Name* and *Comment*. **DemonNAS Data Replicator** will create a tag for the latest version of every file in the NAS server backup directory. If user enables *Upload files before adding new tag* in the *Preference* tab, before new tag is created, **DemonNAS Data Replicator** will upload changed files from client to the NAS server and then create tag after the upload. This is to ensure that all tags created represent the latest version at the client station, especially before user starts to run the monitoring function.




# User Preferences

## Upload




1. Upload before monitoring.

   When this option is clicked, each time *Monitor* is executed, the system will check to see if there are files that have not been backed up. If yes, it will automatically upload these files. This is to prevent client

computer to change certain files when there is network disconnect or if user did not run monitor immediately after running the complete backup in the first instance.

2. Upload before creating tag.

   If user clicks this option, before new tag is created, **DemonNAS Data Replicator** will upload changed files from client to the NAS server and then create tag after the upload. This is to ensure that all tags created represent the latest version at the client station, especially before user starts to run the monitoring function.

## File Copying

1. Copy with compression

   In order to save storage space, when this option is enabled, **DemonNAS Data Replicator** will compress all backup files stored in the NAS server.

2. Copy with encryption

   In order to ensure data security and prevent others from data interception, user can choose this option to have password protection for files in the NAS server.

## Initialization Setup

1. Auto start when login.

   User can choose to run **DemonNAS Data Replicator** in client station after it is powered on.

2. Start with monitoring.

   User can choose to run *Monitoring* after starting **DemonNAS Data Replicator.** Of course, if you also enable *Upload before monitoring,* once a user is logged in, the system will first upload all the files that have not been uploaded b efore running the monitor function.

## Version Setup

**DemonNAS Data Replicator** can support up to 20 versions. User can choose to select the number of versions for files to be backed up.

Assume a user chooses to backup 20 versions, each backup file will be given an extension that indicates its version number, that is, the first version of the backup file will be given the file extension "v00", the second "v01", and so on.

This number will increase each time a new version of file is backed up. When all twenty versions are used up, you will see a file extension of "v20" and the file with the extension "v00" will be deleted. Following this numbering scheme, the file extension will increment and accumulate until "v99" and then reinitialized to "v00" to begin a new cycle.

# Chapter 7. Troubleshooting

## Problems Installing the NAS Server

### First-time Network Setup with **DemonNAS Filer Assistant** fails

1. Make sure you have selected the correct server.
2. Make sure the server is connected to the LAN. Check the LAN LED on the server panel to see if the connection is normal.
3. Make sure the server is connected to a power source and is on.
4. Make sure the LAN still has free IP addresses.
5. Make sure the manually entered network settings are correct.
6. Make sure the client terminal you are using has correctly installed/set up the TCP/IP protocols, and is running Microsoft Internet Explorer 5.0 or higher.
7. Make sure the NAS server and the client computer that runs **DemonNAS Filer Assistant** can be connected through physical network medium (e.g. hub, switch, etc.).
8. **DemonNAS Filer Assistant 2.0** cannot search for and setup **DemonNAS Filer for Business 2.0**. Please make sure you are using **DemonNAS Filer Assistant 2.0**。 Any previous version of **DemonNAS Filer Assistant** cannot search for and setup **DemonNAS Filer for Business 2.0**. Please make sure you are using **DemonNAS Filer Assistant 2.0**。
9. The firewall function of some firewall or anti-virus software will cause failure for the **DemonNAS Filer Assistant** to find **DemonNAS Filer for Business** servers. Please disable the firewall or anti-virus software and try again.

### Cannot use Internet Explorer to connect to **Storage Manager**

1. Check if the network settings of the NAS server are correct and make sure that the IP of the NAS server does not conflict with those of other servers on the LAN.

2. Make sure the Windows client has correctly installed/set up TCP/IP.

3. Make sure the NAS server and the client computer that runs **Microsoft IE** can be connected through physical network medium (e.g. hub, switch, etc.) and in the same subnet.

4. Make sure that the browser is IE 5.0 or above and it can connect to other servers in the network.

5. Try typing the server name of the NAS server in the address field of IE.

6. Try typing the IP address of the NAS server in the address field of IE.

7. Try restoring the IE settings to defaults and try again.

8. Try restarting the server.

### Buttons missing on *Date/Time* page in *Quick Configuration*

Certain web trap modules of anti-virus software cause a situation where certain buttons on the *Date/Time* Page of the *Quick Configuration* module cannot be displayed. Disable the web trap and try again, or use a different terminal for the setup.

## Problems of the System

### Boot failure

There are two possibilities that could cause a system reboot failure.

1. If the system administrator has ever added the NAS server into a NIS domain before, he/she will not be able to reboot the NAS server in case the NIS server is not available. Please make sure the NIS server is available first and then restart the NAS server.

2. When purchasing diskless model that supports DOC/DOM, at least one hard disk has to be installed before booting up the server.

### It takes a long time to start the server and it seems to be a boot failure.

If the NAS server is improperly shut down when it is operating, the system will automatically check the file system when the server is restarted. The more data

are saved on the server, the longer the system check will take. It probably takes from several minutes to several hours, and sometimes users tend to regard it as a boot failure.

If clients cannot access the NAS server after turning on the computer, check the LED on the server. If the lights under the hard disks keep blinking, it means that the system is still checking the file system and the booting has not completed yet. Wait until it finishes instead of improperly shutting down the server again, or removing the hard disk drive. The booting is completed when the LED on the front panel of the server is back to normal.

### The server shuts down right after being booted.

You need at least one hard disk to boot the server. When such a problem occurs, check if there is a hard disk installed on the server. If not, install the hard disk onto the server and then reboot it.

## Problems of the Hard Disks on the NAS Server

### Hard disk failure

When purchasing models supporting hot-swappable disks, the failure of any hard disk in the system will be reported on the **Storage Manager**'s *Server Information→Status* page. A notification will be sent to the system administrator, who will only need to remove the broken disk (without having to power down the system), and replace it with a new one. The system will automatically configure the new hard disk.

A Simple, Span or RAID 0 volume that has no inherent safety measures, so that if any hard disk is damaged, all data in that volume will be lost.

In a RAID 1 or RAID 5 system, if any hard disk is damaged, after the new hard disk is added, the system will automatically rebuild the disk and all the data on the volume, while client access is not compromised during the rebuild phase.

Please note the following:

1. The replacement disk should be a new and empty disk. In the interest of smooth system operation and better performance, try to use the same brand and disk model for all disks.

2. Before inserting the new disk, make sure its jumpers are correctly set.

## Hard disk rebuild failure

The following reasons can cause a hard disk rebuilding operation to fail:

1. The hard disk used to rebuild is damaged. Try using a brand-new hard disk.

2. The hard disk used to rebuild is too small to rebuild the original volume on it.

3. The jumpers of the hard disks are set incorrectly. Since jumper settings depend on the model, refer to the instructions that came with your hard disk.

4. The hard disk used to rebuild is of a different type. E.g., if the original is an ATA 100 model, and you try to use an ATA 66, or a similar model from a different manufacturer, the data rebuild may fail. Always use models from the same maker with similar specifications.

## Some system settings are changed when adding a new hard disk

It could be a hard disk added to the NAS server contains other DemonNAS Filer system.

If the NAS configuration has been backed up, system administrator can resume the settings to the NAS server by using **DemonNAS Filer Backup**. If there is no backup of the settings, the administrator should re-configure the NAS server.

To ensure smooth operation when adding a new volume, it is strongly recommended that the new disk has the same brand and product ID with the existing one(s) on the server and there is no DemonNAS Filer system on it.

## After inserting the hard disk and turning on the computer, *Removed* is displayed on the *"Server Information > Status"* page of the Storage Manager.

1. Please check if the connection between the hard disk and the cable is correct.

2. The NAS server only supports hard disks with jumpers configured on *Master* mode. Please make sure the hard disks are not configured as *Slave* or *Cable Select*.

# Problems Browsing HTTP/files

## Cannot browse files/folders on the page of "File Browser"

Update the web browser to IE 5.5 or above.

## Failed to download files to Windows clients from the *File Browser*

When downloading a file to Windows clients from the *File Browser*, Windows will first copy the file to a system temporary directory and the file will only be redirected to the user-defined location after the copying finishes, thus the Windows client should keep available space at least twice the file size when downloading files.

# Problems Accessing the NAS Server from Windows Clients

## Cannot find the NAS server in "Network Neighborhood"

1. Make sure that the NAS server has been turned on and connected on the LAN.
2. Make sure the system administrator has enabled Windows Networking on the NAS server.
3. Make sure the Windows client has correctly installed a TCP/IP server.
4. Enter "My Computer" or "Windows Explorer" and input "\\Server_Name" in the field of http address.
5. Start "Find→Computer" on the Start Menu, input the name of the NAS server and search for it.
6. Click on "Tools→Map Network Drive" in "My Computer" or "Windows Explorer". Enter "\\ Server_Name\public1" in the field of "Path." Press OK to open and connect with the public1 folder on the server.

## Cannot access the file(s) in a certain shared folder on the NAS server via Windows clients

1. Check if there is such a shared folder on the NAS server. In some cases, a shared folder on the NAS server deleted by the system administrator may still be shown in "Network Neighborhood" in the Windows client's terminal. This is due to Windows limitation that it cannot real-time update "Network Neighborhood".

2. Make sure the system administrator has enabled Windows Networking on the NAS server.

3. Make sure this account has authorized access to the shared folder.

4. Check if the account used for logging into the Windows 98/ME client also has a same-name account on the NAS server or Windows domain, and check if the password is correct.

5. Make sure that the system administrator does not set a password for the *guest* account when users log in as *guest*.

6. If users have added the NAS server into a Windows domain, please check that the Windows domain controller is operating normally. The system administrator can try to re-join the NAS server to the Windows domain in **Storage Manager**. In addition, please check the client failed to access the NAS server has correctly logged onto the same Window domain.

7. Check to see if there are any hosts on the network using the same IP or server name as the NAS server. If there are, correct the situation as soon as possible.

8. When a Windows 2000 client can unexpectedly not access privileged files, it could be the client has been logged in as a guest because the wrong account name was entered when logging on to the NAS server. Please log out of the server and log in again.

9. If all the above settings are correct, pleas e reboot the NAS server.

## After the Windows XP Professional client successfully logs in the NAS server, the NAS server does not require user authentication when the client logins again after the client PC is rebooted.

This is a new feature "manage my network password " of Windows XP Professional. When logging in a NAS server for the first time, if user checks the box "Remember My Password" at the bottom of the account/password

prompt, the user does not need to input the account and password the next time he/she logs in again even after rebooting or logging out the client PC.

If the client wants to disable this option, go to ”Control Panel/User Account” to select the account to be changed. Click ”Related Tasks/Manage my network password” and delete the passwo rd to be removed.

# Problems Accessing the NAS Server from Mac Clients

## Cannot find the NAS server via Chooser or Network Browser.

1. Make sure the NAS server has been turned on and connected on the LAN.

2. Check if the Mac client is able to connect with other AppleTalk servers. If not, the network settings of this Mac client are incorrect.

3. Make sure the system administrator has enabled Apple networking connections over AppleTalk or TCP/IP protocol, and make sure the network adapter that belongs to the sub-net where AppleTalk service is provided is working properly.

## DemonNAS Filer Assistant for Mac OS cannot find the NAS server with "Unknown" status.

If the network of Mac client was set to "DHCP:

1. Please change to "Fixed IP" or

2. Change to "Fixed IP" first, and then change back to "DHCP"

If the network of Mac client was set to "Fixed IP":

1. Please change to "DHCP" or

2. Change to "DHCP" first, and then change back to "Fixed IP"

## Mac clients will not be able to save any single file larger than 2GB onto the NAS server.

This is due to the limitation of the system.

## Cannot access files in a certain shared folder on the NAS server via Mac clients.

1. Check if there is such a shared folder on the NAS server.
2. Make sure the system administrator has enabled Apple networking connections over AppleTalk or TCP/IP protocol.
3. Make sure this account has authorized access to the shared folder.
4. Check if the account used for logging into the Mac client also has a same-name account on the NAS server, and check if the password is correct.
5. Make sure that the system administrator does not set a password for the *guest* account when users log in as *guest*.
6. Check to see if there are any hosts on the network using the same IP or server name as the NAS server. If there are, correct the situation as soon as possible.
7. If all the above settings are correct, please reboot the NAS server.

## Cross marks appear when a Mac client is browsing an English web site

When a Mac client, for example a Mac OS 9.0.2 client, is trying to browse an English web site and sees many "cross" marks appear, please close *Smartview* from the *Control Panel.*

## HDD space is not released after a Mac client deletes a file on the NAS server

This is an attribute of Mac OS 9 clients. When the Mac OS 9 clients delete a file on the NAS server, the file is not actually deleted so the available HDD space shown on the *Server Information/Status* page is not enlarged. To release the space, use "*Empty Trash*" on the Mac client's terminal.

### Windows clients cannot delete files saved by Mac clients to the NAS server

The Mac system allows the last digit of the file name to be a space while the Windows system does not accept such a format. Thus when the Mac client saves a file of this format to the NAS server, the Windows client cannot delete the file for it is unrecognizable. It is suggested that Mac users avoid creating files with a space at the end of the file name if they have to share files on the NAS server with Windows clients.

### Mac clients failed to set ACL to files and folders

1. Mac OS 9 clients cannot set ACL to files and folders on the NAS server, but existing ACL setting of files and folders is still valid to Mac OS 9 clients.

2. Due to the limitation of Mac OS 10, the Mac OS X clients can only set ACL to folders on the NAS server, but not to files. However, files created under a folder will inherit the ACL setting of the folder. Moreover, when setting folder ACL, applying the "Apply to all enclosed folders" setting will make all files and folders inherit the ACL setting of that folder.

3. On Mac OS X, access right of a folder cannot be set to "Read & Write" after it has been set to "Write only."

## Problems Accessing the NAS Server from NFS Clients'

## Problems Setting the **Storage Manager**

### **Storage Manager** lost connection to client terminal

If due to heavy network traffic **Storage Manager** fails to respond or freezes while running setup, try clicking on another section, then on the original section again. If this doesn't work, close the browser window and re-open **Storage Manager**.

### Cannot connect to NAS after modifying network configuration

After modifying the network configuration (including server addresses, domain, DNS entries, etc.), re-confirm the network settings and change them as necessary. Try closing the browser and reconnecting to **Storage Manager**.

## Local users cannot access **Storage Manager**

Possible reasons a user's account on the local machine cannot connect to the **Storage Manager** may include:

1. The account was originally a Windows domain account. The system administrator did not setup a password when adding it to the local accounts.

2. If the client platform is using a language different from the one used on **Storage Manager**, then the client might be reading random codes when using the system. The system administrator has to re-set the languages on **Storage Manager** so that they are readable by the client.

3. The user may not be able to launch Storage Manager via DemonNAS Filer Assistant if he has installed a browser other than IE (e.g. Netscape) and uninstalled it. We suggest that you use a computer without other browsers installed and uninstalled

## E-mail notifications not received

If you don't receive e-mail notifications from the server, go to **Storage Manager**, *Server Information→ System Log*, and check the messages in the log. The following error messages refer to undelivered mail notifications:

1. Cannot resolve the host address: xxxxxx, errcode: xxx.

   This message indicates that the DNS server could not verify the SMTP server name you provided. This may be due to one of the following reasons:

   i. DNS entry error

   ii. DNS server powered down

   iii. Incorrect domain name

   iv. Incorrect SMTP server

   Verify these options and try again

2. Cannot connect to host: xxxxxx (xxx.xxx.xxx.xxx).

   This message indicates that the system could not connect to the SMTP server. This may be due to one of the following reasons:

i. Network connection broken. Check the network connection and try again.

ii. SMTP server unavailable. Confirm that the server is working properly.

iii. SMTP server rejected the message. Verify that the SMTP server does not filter out junk messages. Contact the system administrator or try using a different SMTP server.

3. Mail server connection failed.

   This message indicates that the SMTP server has timed out and not responded within 30 seconds. Verify that the SMTP server is working properly.

4. Send email error: xxx.

   This message indicates an unknown mail error. Note the error code and contact the system manufacturer's representative.

5. Cannot create socket resource.

   This message indicates that the system has insufficient resources to execute the mail send operation. Reboot the server to correct the problem.

## Cannot add multiple user Ids to a workgroup at a time

Update the web browser to IE 5.5 or above.

## Time synchronization failed to work

If time synchronization failed to work after the time synchronization setting is configured, please check:

1. If a hostname is entered in the "Network time server:" column, if yes, try to enter the IP of the time server, instead of the hostname, or check if the DNS and gateway of the network adapter is properly entered.

2. If the configured network time server still exists.

3. If the configured network time server still works properly.

4. If the configured server still supports Network Time Protocol.

### Failed to add the NAS server to the Windows domain

If the NAS server cannot be added into the native mode Windows 2000 domain, please check if the DNS setting of the domain controller is correct. The following hyperlink on the Microsoft web site is a reference for the DNS setting:

http://support.microsoft.com/default.aspx?scid=kb;en-us;260371.

## Problems Using UPS

### UPS configuration becomes invalid after the IP of the NAS server is changed

If the UPS is configured as controlled by SNMP, the administrator should update related UPS privilege on the UPS management page provided by the UPS manufacturer whenever the IP of the NAS server is changed so that the UPS will allow the NAS server to query the UPS status with the new IP.

## Problems Using Local Tape Backup

### The NAS server can not find the tape drive

If the tape drive has been turned on and operated properly, yet after connecting to NAS server and clicking *Local Tape Backup*, a warning message suggesting the device is not found appears. In this case, please check:

1. The connection between the tape drive and the NAS server is correctly set.

2. If it happens that the tape drive is connected to NAS server for the first time, please keep the tape drive on and reboot the NAS server to try again.

### Cannot find the backup items to be restored

When you begin to perform local tape restore and you cannot find the backup items to be restored, please check:

1. If the tape is inserted into the tape drive correctly.

2. If the backup item to be restored is located on more than one tape, please make sure the tapes are inserted in the same order as during backup.

# Problems Using DemonNAS Filer Backup

## Cannot back up/restore the data on the NAS server

1. When the system fails to backup/restore data on the NAS server, the system administrator will receive an e-mail with an error code notifying the data backup/restore failure. The administrator can also go to *system log* tab of **Storage Manager** and search for the error code in the log file.

## Not sure if DemonNAS Filer Backup has finished the restoration

The restoration consists of "data transmission" and "restoration process". If both actions are finished within the system predetermined time, the **Storage Manager** will show a message indicating that the restoration is successful; if by the end of the system predetermined time the data transmission is complete, but not the restoration process, the **Storage Manager** will show a message asking the administrator to check the system log or e-mails for the result. In this case, please check the system log or e-mails, which will depend on the data size to be processed.

# Problems Using DemonNAS Data Replicator

## Cannot find the NAS server after pressing "Browse" in DemonNAS Data Replicator

Please check:

1. If the network adapter is connected properly to the Windows client.

2. If the NAS server can be found by browsing the "Network Neighborhood" or "My Network Places". If not, please solve this problem first, and then try **DemonNAS Data Replicator** again.

## The files on the computer are deleted but still saved on the server

As backup software, **DemonNAS Data Replicator** does not support "Mirror." Thus the files/folders on the server will not be deleted when you delete those on the computer. To delete them, go to the "Resume" sheet in **DemonNAS Data Replicator** and delete the files/folders by right-clicking the mouse.

### DemonNAS Data Replicator cannot back up data in Outlook

Outlook saves data to a file named "mailbox.pst" in a directory "Ourlook". The file is locked when you launch Outlook so **DemonNAS Data Replicator** cannot back up the data. To solve the problem, shut down Outlook before making backups.

### DemonNAS Data Replicator uploads empty folders to the NAS server or the uploaded data files are incomplete

Here are the possible causes of this problem:

1. The folders on the Windows client are empty.

2. The user has set filter items for files with certain extensions or prefixes in *Files Filtering*. The files with these extensions or prefixes will not be uploaded. Please reset filter in *Files Filtering.*

3. Incomplete data uploading before doing monitoring will cause inconsistency between data saved on the NAS server and that on Windows client. Go to *Backup→Upload* and select *All Files* in upload settings. Click *Apply* to upload all files first.

### DemonNAS Data Replicator cannot resume data to the Windows Client

Possible causes of this problem are:

1. The Windows client's hard disk is full. We suggest that you delete unwanted files and then start resumption again.

2. The Windows client's hard disk is bad or damaged. Check the hard disk.

3. The access to the file to be resume d is refused due to no authorization. Please contact System administrator.

## General Problems

### How to deal with lost passwords

If a user has forgotten his/her password, he/she can turn to the system

administrator to reset the personal settings. If the system administrator forgets the password, the server must be returned to the dealer. All the data on the server will be lost.

# Appendix 1. What is RAID?

The acronym RAID stands for Redundant Array of Independent Drives, a method to combine a number of small, inexpensive drives into an array which offers more functionality than a single large disk with comparable capacity, while simultaneously taking advantage of the individual disks to increase the efficiency of the system. In other words, during the writing process, data is split into segments and stored on multiple disks; likewise, during the reading process, data is retrieved simultaneously from multiple disks in order to increase the access speed of the array.

RAID can also be configured to use part of the disk capacity for mirroring or redundant data, thus preserving the integrity of the system in case one of the disks in the array fails.

**DemonNAS Filer for Business** supports the levels RAID 0, RAID 1, RAID 5 and RAID 5 with Spare, described below:

| **RAID level** | **Functionality** |
|---|---|
| RAID 0 | Offers Striping, a process where multiple disks are combined to form one virtual large disk, but without safety measures. |
| RAID 1 | Half of the disks are used for backup purposes; the content of disk A is mirrored to disk B to assure data integrity. The available storage space is only one half of total physical disk capacity. |
| RAID 5 | This configuration includes a backup option. It treats multiple disks as one virtual disk to increase access speed. It uses parity mode to store redundant data on a space equal to the size of one disk for later data recovery. The actual available storage space in a system with n disks is thus n-1 hard disks. |
| RAID 5 with Spare | RAID 5 with Spare adds one spare disk to the RAID 5 array, allocating one for redundancy and the second one as a spare. The actual available storage space in a system with n disks is thus n-2 hard disks. |

Each of the RAID configurations offers a different disk capacity and level of safety. When making your choice, consider the following:

1. The bigger the available space, the fewer safeguards the system has.

2. In any RAID array, the logical capacity of the array is determined by the

disk with the smallest capacity. E.g., in a RAID 5 configuration with one 20 GB and three 30 GB hard disks, the total capacity available is equal to four 20 GB hard disks. Therefore you should always choose to combine hard disks of equal size in the same array.

# RAID 0 (striping)

In a RAID 0 array, data is split and stored in different locations, but without fault tolerance. The server treats the array as one big disk, with a size of almost all individual disks combined. The parallel access to multiple disks allows for faster read and write, making the array faster than individual disks. Because of that, this configuration is ideal for applications where large amounts of streaming data have to be efficiently transferred while assuring good quality, e.g. in a recording.

RAID 0 offers no mirroring or redundancy options. If one disk in the array fails, the entire array is inoperable. RAID 0 is not fault-tolerant.

# RAID 1 (mirroring)

A RAID 1 array consists of at least two disks that duplicate the storage of data; data is always written to all disks. This system is rather fault-tolerance and is often used in environments with multiple users where safety is of great importance, but more expensive than other solutions, since the actual storage capacity is only 1 disk. RAID 1 is often used in environments with multiple users where safety is of great importance.

Note: DemonNAS Filer for Business only supports creating a RAID 1 volume with 2 disks.

# RAID 5

RAID 5 is the same as RAID 0, i.e. using multiple disks to emulate one large virtual disk, but using parity data format to store redundant information. While the user is writing data, RAID 5 scans the data and stores redundancy information on a separate disk in the array. Parity information is split and stored on different disks together with the actual data. If one disk in the array fails, parity data on the safeguard disk can still be used to rebuild the entire information.

In other words, in a RAID 5 array, you use one disk for redundancy data, leaving you with n-1 disks available for actual data storage.

# RAID 5 with Spare

RAID 5 with Spare is a RAID 5 configuration with one additional spare disk. Should any disk in the array break down, the spare disk will automatically go online and rebuild damaged data. In other words, you are providing two disks for safety, leaving you with n-2 disks storage capacity in an array of n disks.

**TIP**

Even though RAID greatly increases the level of safety in your system, you should still make it a habit to back up data periodically. If you accidentally erase data, even a RAID array cannot restore it. RAID can only compensate for the failure of one disk, that is, if two disks fail simultaneously, data loss is inevitable.

# Appendix 2. Windows access to the NAS server

After installing the NAS server (we shall assume the default server name *NAS001*), the server *NAS001* will appear in Windows Network Neighborhood. Users with access to *NAS001* who are members of the *users* group (see *Security Setup* section above) can access a folder named after their account and other folders to which they have access on *NAS001*.

To access storage space on the *NAS001* server from a Windows client, access the drive through Network Neighborhood, or create a permanent link (map network drive) to the drive on *NAS001* in the client's file manager.

Windows NT 4.0/2000 users accessing the NAS server will be prompted for their account and password when accessing the NAS server.

When Windows 98 clients try to access the server, the Windows operating system will read the login name of the client and prompt the user to enter only the correct password. If the account information on the NAS server does not match the client's login name, access will be denied. Therefore, if the client terminal runs Windows 98, please use the same names for accounts on this server and the clients.

# Appendix 3. UNIX access to the NAS server

One of the purposes for the NFS protocol is to have similar management methods of the remote file system and local file system. Therefore, they can both use the "mount" command to mount.

mount /dev/dsk/c0t0d0s5 /home (local filesystem, Solaris)

mount /dev/hda5 /home (local file system, Linux)

The UNIX administrator will usually set the above-mentioned scripts in /etc/vfstab (Solaris ) or /etc/fstab (Linux, FreeBSD). These settings will automatically execute once the system starts. The following example shows the contents of a /etc/vfstab (dogfood is a NAS/NFS server name).

| # Filesystem | Mountpoint | Type |
|---|---|---|
| /dev/dsk/c0t0d0s0 | / | ufs |
| /proc | /proc | proc |
| dogfood:/volume1/programs | /usr/local | nfs |
| dogfood:/volume1/homes | /home | nfs |

When there are a lot of UNIX clients in the network, , writing NFS file systems into client /etc/vfstab or /etc/fstab files becomes a complicated task. When the path of one NFS file system changes, or a new NFS file system is added, the administrator has to change the settings for each UNIX client one by one.

Using NIS (Network Information Service) is one solution because NIS saves all mount information in the NIS server. Once NFS clients join the NIS domain, they will be able to use the shared directories on NFS servers through the function of "automount" instead of modifying /etc/vfstab or /etc/fstab individually. Most UNIX systems (Solaris, Linux, FreeBSD etc.) can be configured as an NIS server.

The following description is based on the settings on a Solaris NIS server.

Master map is the database of the mount information on the NIS server. Before building this database, administrators must edit the pure text file /etc/auto_master as follows.

Master map: /etc/auto_master

```
#Directory      Map             Mount options

/net            -hosts          -rw

/home           auto_home       -nosuid

/-              auto_direct
```

The first column in the file is the path to automount, which means that when users at clients try to access this directory, the link will be enabled automatically. In the second column, the parameters are the paths for databases, which record the mount information about the directory in the first column except for "-hosts". The example above has a special line " /-auto_direct." **"** /- **"** is not a directory. The directories to be mounted are in the database "auto_direct." Its format is:

/etc/auto_direct

```
#Mount point    Mount options   File system

/usr/local      -ro,nosuid      dogfood:/volume1/programs

/public         -rw             datakey:/volume1/public1
```

The first column is the mount point and the second column represents the mounting parameters. The third column shows the NFS file system in use. For example, if users of UNIX clients want to access the files in /usr/local, /usr/local will automatically link to dogfood:/volume1/programs based on auto_direct.

The other database "auto_home" can have different links according to different user names. Its format is:

```
#User name      File system

sysadmin    dogfood:/volume1/homes/sysadmin

justind         dogfood:/volume1/homes/justind

anneli          datakey:/volume1/users/anneli

jiem        dadakey:/volume1/users/&
```

Assume that /etc/passwd (the file holding the user accounts) on the NIS server has the following content:

sysadmin:x:1000:500:System Administrator:/home/sysadmin:/bin/tcsh

justind:x:1001:500:Justin Deng:/home/justind:/bin/tcsh

anneli:x:1002:500:Anne Li:/home/anneli:/bin/tcsh

jiem:x:1003:500:Jiem Deng:/home/jiem:/bin/csh

When the user *sysadmin* logs in to the UNIX clients, he will enter his default home directory /home/sysadmin according to "/etc/passwd". Due to the auto_home database, /home/sysadmin will be automatically mounted to dogfood:/volume1/homes/sysadmin. With auto_home, the administrator can easily allocate hard disk space to users. When the NAS server dogfood is out of space, the newly added or some original users (such as anneli and jiem) could be moved to the NAS server *datakey*.

# Appendix 4. Mac access to the NAS server

This system software supports the two access protocols AppleTalk and TCP/IP. The system administrator only has to configure the desired protocol in **Storage Manager**, *Network Setup→Apple network*.

Suppose you are running a NAS server called *NAS001*. To allow access from a Mac client via AppleTalk, select *AppleShare* and in the *Select File Server* option the server name *NAS001*. When logging in, provide the name and password of the client account, or log in as *guest*. All the data for which access privileges exist will be visible. Users who are part of the *users* group (see chapter 4) will find their own home folders. Select the desired data: once its icon appears on the desktop, a proper connecting has been established.

If the Mac client supports TCP/IP, you may also choose TCP/IP as an access protocol. Under *Server IP Address*, enter the IP address of the *NAS001* server, then log in with your name and password, or as *guest*.

If a Zone exists on the LAN, the server will automatically login the zone of the client.

Note:

1. Mac clients are not able to save single files larger than 2GB onto the NAS server.

2. When there is more than one network card in the NAS server and the server is set up as having multiple subnets, this system only supports Mac client in s single subnet to read/write from the server through AppleTalk or TCP/IP protocol. Mac clients in other subnet(s) can only read/write through TCP/IP protocol. Due to this limitation, this system can only support the Zone in a single subnet

# Appendix 5. Third party backup support

## CA BrightStor Enterprise Backup v10.0

### Backup-able/Restore-able items

All share/home folders.

### Authentication

root can log in from CA BrightStor, browse all users' home folders, and perform fully backup/restore.

Normal user who logs into the Windows client running CA BrightStor with the same account/password in DemonNAS Filer can backup data in his/her home folder and other share folders he/she has permission to access. Because CA BrightStor uses "user mode" authentication, which is similar to Windows neighborhood, the user has to re-login Windows if he/she wants to switch to different identification/user name.

### Important Note

1. When backing up data with CA BrightStor, one directory named "registry" will be automatically generated by CA. To ensure the backup runs correctly, do not choose this directory since it actually doesn't exist on the NAS server.

2. If the user, excluding the accounts *root* and *guest*, wants to change to *root* permission after connecting to the NAS server through CAEB, he/she should right-click the NAS server to enter *root* authentication data before unrolling the tree view in CAEB. Moreover, the user, as described above, should log out Windows first and log in again if he/she wants to change as another user after connecting to the NAS server through CAEB.

3. As long as the user logs in CA BrightStor as the root permission of the NAS server, he/she could not switch to any other user by right clicking the mouse to change the security information.

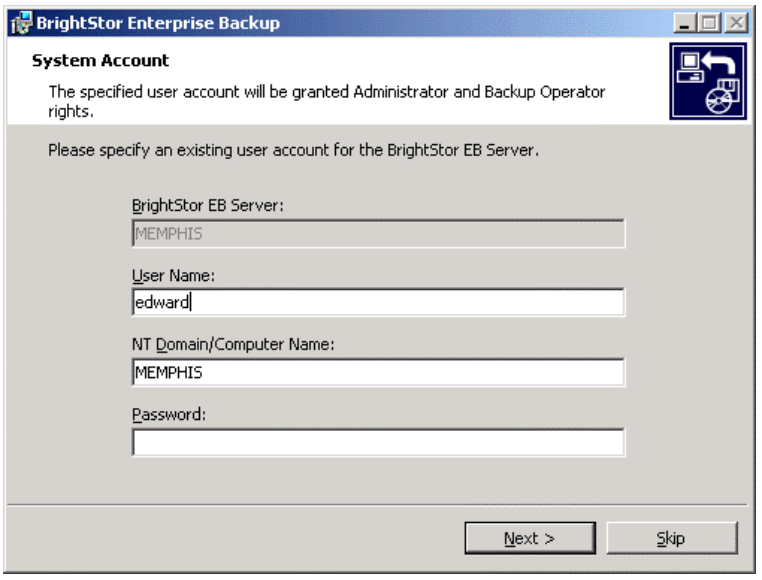
## Agent Support

The NAS server can be backed up without an agent installed.

## NAS server as backup destination

When using CA BrightStor Enterprise Backup (CAEB) v10.0 to backup data to the NAS server, please note that:

1. The user name and password required during installing CA BrightStor Enterprise Backup (CAEB) v10.0 should be identical with the pair used to map the shared folder on the NAS server.




2. The Windows client should belong to the administrators group in order to install CA BrightStor Enterprise Backup (CAEB) v10.0.

# CA BrightStor ARCserve Backup v9 for Windows

The same as CA BrightStor Enterprise Backup (CAEB) v10.0.

# Veritas BackupExec v8.6

## Backup-able/Restore-able items

All share/home folders.

## Authentication

root can lo g in from Veritas BackupExec, browse all users' home folders, and perform fully backup/restore.

Normal users can backup data in his/her home folder and other shared folders he/she has permission to access. Because Veritas BackupExec uses "share mode" authentication, the user does not have to re-login Windows if he/she wants to switch the identification.

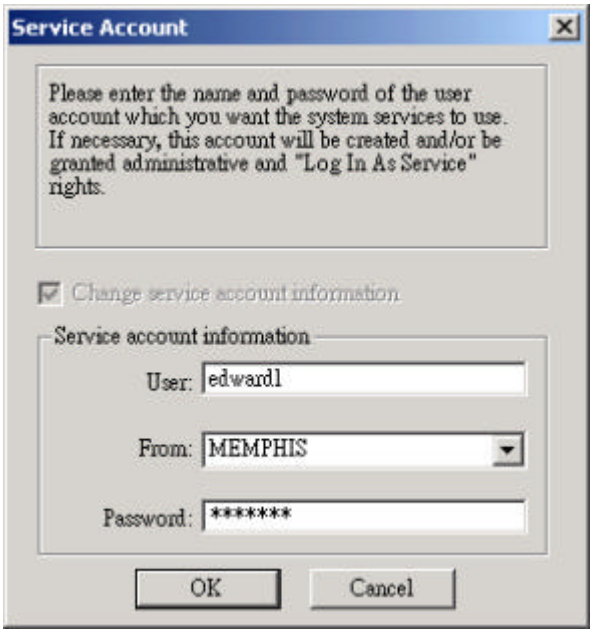
## Agent Support

The NAS server can be backed up without an agent installed.

## NAS server as backup destination

When using Veritas BackupExec v8.6 to backup data to the NAS server, please note that:

1. The user name and password required during installing Veritas BackupExec v8.6 should be identical with the pair used to map the shared folder on the NAS server.


Service Account
Please enter the name and password of the user account which you want the system services to use. If necessary, this account will be created and/or be granted administrative and "Log In As Service" rights.
Change service account information
Service account information
User: edwardl
From: MEMPHIS
Password: *******
OK
Cancel

2. The Windows client should belong to the administrators group in order to install Veritas BackupExec v8.6.

# Dantz Retrospect Backup v5.6

## Backup-able/Restore-able items

All share/home folders.

## Agent Support

The NAS server can be backed up without an agent installed.

# Appendix 6. Using DemonNAS Filer Assistant on Mac OS

## Using DemonNAS Filer Assistant on Mac OS 9

### Before You Start

1. Connect the NAS server to the LAN and turn on the server.
2. Set the resolution of the client terminal screen to 1024*768 or higher.
3. Make sure Mac OS Runtime for Java 2.2.5 (MRJ 2.2.5) is installed on the client ( http://kbase.info.apple.com/cgi-bin/WebObjects/kbase.woa/117/wa/query?searchMode=Expert &type=id&val=KC.75097 )
4. Make sure the IE version is 5.0 or above and its Java security options is configured as “Unrestricted Access”. (Edit-> Preferences-> Web Browser-> Java-> Network access-> Unrestricted Access)

### Setup

1. Double click **“DemonNAS Filer Assistant“** to run the program.
2. Except the following functions, DemonNAS Filer Assistant for Mac OS 9 functions the same as DemonNAS Filer Assistant for Windows. For detailed information, please see Chapter 2, "Setting up the NAS Server."
   i. DemonNAS Filer Assistant for Mac OS 9 does not provide the “Map Drive” function.
   ii. When you set up the NAS server with "Unknown" status, DemonNAS Filer Assistant for Windows will open a new dialog box for setup, while DemonNAS Filer Assistant for Mac OS 9 will show related data on the top of the same dialog box for the system administrator to set up.
   iii. When setting up a NAS server with "Unknown" status, if you select "Use manual configuration", DemonNAS Filer Assistant for Windows will provide "Suggest" options, but DemonNAS Filer Assistant for Mac OS 9 does not provide the option. The system administrator should manually enter related data.

# Using DemonNAS Filer Assistant on Mac OS 10

1. Copy the file *DemonNAS Filer Assistant.dmg.gz* to the Mac OS 10 client.

2. Double-click the file *DemonNAS Filer Assistant.dmg.gz* to extract the file to *DemonNAS Filer Assistant.dmg.*

3. Double-click the file *DemonNAS Filer Assistant.dm* to extract the file to the folder *DemonNAS Filer Assistant.*

4. Enter the folder and double-click the program in it.

5. Except the following functions, DemonNAS Filer Assistant for Mac OS X provide the same functions as DemonNAS Filer Assistant for Windows. For detailed information, please see Chapter 2, "Setting up the NAS Server."

    i. DemonNAS Filer Assistant for Mac OS X does not provide the "Map Drive" function."

    ii. When setting up a NAS server with "Unknown" status, if you select "Use manual configuration", DemonNAS Filer Assistant for Windows will provide "Suggest" options, but DemonNAS Filer Assistant for Mac OS X does not provide the option. The system administrator should manually enter related data.

# Appendix 7. Email notification list

| Recipient | Subject | Email Content |
|---|---|---|
| Administrator | Server %HOSTNAME% temperature restored to normal | Dear user,<br><br>The temperature of the server %HOSTNAME% has been restored to normal.<br>Use Toolkit-->LED Management on the following site to reset the LED: %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% temperature is a little high! | Dear user,<br><br>The server %HOSTNAME% temperature is a little high.<br>CPU fans might not be working properly. Please check the server immediately and power it down if necessary.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% overheating! | Dear user,<br><br>The server %HOSTNAME% is excessively hot!<br>CPU fans might not be working properly. Please check the server immediately and power it down if necessary!<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% temperature has reached critical limit! | Dear user,<br><br>The server %HOSTNAME%'s temperature is reaching a critical point and is going to shut down automatically.<br>After normal temperatures have been restored, restart the server and look for the cause of the problem.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% temperature restored to normal | Dear user,<br><br>The temperature of the server %HOSTNAME% has been restored to normal.<br><br>Sincerely, |

| | | |
|---|---|---|
| | | %COMPANY_NAME% |
| Administrator | %HOSTNAME% lost AC power and is running on UPS. System is going to shutdown | Dear user,<br><br>Due to an AC power failure,<br>power is temporarily provided by the UPS system.<br>Please save all open files and shut down %HOSTNAME%.<br>Wait until the power returns before you start the server again.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | A memory error occurred on %HOSTNAME% | Dear user,<br><br>A memory error occurred on %HOSTNAME%<br>Memory chips might be faulty.<br>Please tend to repairs immediately.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Memory errors occurred on %HOSTNAME% | Dear user,<br><br>Memory errors occurred on %HOSTNAME%<br>Memory chips might be faulty.<br>Please tend to repairs immediately.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: System fan has failed. | Dear user,<br><br>The system fan on %HOSTNAME% has failed.<br>Please replace the system fan as soon as possible.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: %NUM% fan has failed. | Dear user,<br><br>The %NUM% fan on %HOSTNAME% has failed.<br>Please replace the %NUM% fan as soon as possible.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: %NUM% fan is in normal working order | Dear user,<br><br>The %NUM% fan on %HOSTNAME% is in normal working order now. |

| | | |
|---|---|---|
| | | Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: %NUM% power supply has failed. | Dear user,<br><br>The %NUM% power supply on %HOSTNAME% has failed.<br>Please replace the %NUM% power supply as soon as possible.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %NUM% battery has been removed | Dear user,<br><br>The %NUM% battery on %HOSTNAME% has been removed.<br>Please confirm and insert a new battery.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: %NUM% battery has failed. | Dear user,<br><br>The %NUM% battery on %HOSTNAME% has failed.<br>Please replace the %NUM% battery as soon as possible.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The disk cage %NUM% on server %HOSTNAME% restored to normal temperature | Dear user,<br><br>The disk c age %NUM% on server %HOSTNAME% has been restored to normal temperature.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Overheated Disk cage %NUM% on server %HOSTNAME%! | Dear user,<br><br>Disk cage %NUM% on server %HOSTNAME% is excessively hot!<br>Disk fans might not be working properly.<br>Please check the server immediately and power it down if necessary!<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: %NUM% battery is in normal working order. | Dear user,<br><br>The %NUM% battery on %HOSTNAME% is in normal working order now.<br><br>Sincerely,<br>%COMPANY_NAME% |

| | | |
|---|---|---|
| Administrator | %HOSTNAME%: %NUM% system fan is in normal working order. | Dear user,<br><br>The %NUM% system fan on %HOSTNAME% is in normal working order now.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %NUM% battery has been inserted | Dear user,<br><br>The %NUM% battery on %HOSTNAME% has been inserted.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: %NUM% power supply has recovered. | Dear user,<br><br>The %NUM% power supply on %HOSTNAME% has recovered.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: LAN card %NUM% is off line. | Dear user,<br><br>LAN card %NUM% is off line.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: LAN card %NUM% is on line. | Dear user,<br><br>LAN card %NUM% is on line.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | You have not completed the local UPS settings of %HOSTNAME%. | Dear user,<br><br>You have not completed settings on the "UPS Management"<br>page. The UPS monitor daemon will not work until the settings have been completed.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% cannot detect the local UPS. | Dear user,<br><br>UPS monitor daemon cannot detect your local UPS.<br>Possible causes are:<br>1. The serial cable is not attached.<br>2. The type of serial cable is incorrect.<br>3. The UPS monitor daemon cannot recognize the type of your UPS. |

| | | |
|---|---|---|
| | | To make the UPS monitor daemon work, please restart it on the "UPS Management" page after the problem has been resolved.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% detects abnormal status of the local UPS power. | Dear user,<br><br>The UPS monitor daemo n has detected an abnormal status of the local UPS power. The local UPS has lost AC power and is probably running on battery power.<br><br>To make the UPS monitor daemon work, please restart it on the "UPS Management" page after the problem has been resolved.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% detects abnormal status of the local UPS. | Dear user,<br><br>The UPS monitor daemon has detected an unknown abnormal status of the local UPS. Please restart the UPS monitor daemon on the "UPS Management" page after the problem is resolved.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | You have not completed the remote UPS settings of %HOSTNAME%. | Dear user,<br><br>You have not completed the "UPS battery status settings" on the "UPS Management" page. The UPS monitor daemon will not work until the settings have been completed.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% cannot detect the remote UPS. | Dear user,<br><br>The UPS monitor daemon cannot detect your remote UPS.<br>Possible causes are:<br>1. The IP address of the remote UPS is incorrect.<br>2. The Community you have set has no permission to access the remote UPS.<br>3. The Enterprise OID of the remote UPS |

| | | |
|---|---|---|
| | | is incorrect.<br>4. The remote UPS does not support SNMP.<br><br>To make the UPS monitor daemon work, please restart it on the "UPS Management" page after the problem is resolved.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% detects abnormal status of the remote UPS power. | Dear user,<br><br>The UPS monitor daemon has detected an abnormal status of the remote UPS power. The remote UPS has lost AC power and is probably running on battery power.<br><br>To make the UPS monitor daemon work, please restart it on the "UPS Management" page after the problem has been resolved.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Incorrect setting on remote UPS of %HOSTNAME%. | Dear user,<br><br>The remote UPS cannot recognize "Status OID," which you have set on the "UPS Management" page. Possible causes are:<br>1. "Status OID" setting is incorrect.<br>2. The remote UPS does not support SNMP.<br><br>To make the UPS monitor daemon work, please restart it on the "UPS Management" page after the problem has been resolved.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% detects abnormal status of the remote UPS. | Dear user,<br><br>The UPS monitor daemon has detected an unknown abnormal status of the remote UPS. Please restart UPS monitor daemon on the "UPS Management" page after the problem has been resolved.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% was | Dear user, |

| | | |
|---|---|---|
| | shutdown. | Due to an AC power failure or low battery of the remote UPS,<br>server %HOSTNAME% was shut down right after sending this mail.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% received a UPS critical event. | Dear user,<br><br>Server %HOSTNAME% received a UPS critical event<br>(%TRAPID%).<br>System will be shut down after the time specified<br>on [Toolkit/UPS Management].<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% received a UPS notification event. | Dear user,<br><br>Server %HOSTNAME% received a UPS notification event<br>(%TRAPID%).<br>The shutdown procedure was cancelled.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% couldn't read UPS configuration. | Dear user,<br><br>Server %HOSTNAME% couldn't read UPS configuration<br>when tried to start UPS daemons.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Serv er %HOSTNAME% failed to connect to the remote UPS. | Dear user,<br><br>Server %HOSTNAME% failed to connect to the remote UPS<br>when tried to start UPS daemons.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% was shutdown. | Dear user,<br><br>Due to an AC power failure or low battery of the local UPS,<br>server %HOSTNAME% was shut down right after sending this mail.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% lost AC power | Dear user, |

| | | |
|---|---|---|
| | and is running on UPS. The system is going to shut down. | Due to an AC power failure, power is temporarily provided by the UPS system. Server %HOSTNAME% will be shut down if the AC power is not restored within the time specified on [Toolkit/UPS Management].<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The AC power on server %HOSTNAME% has been restored. | Dear user,<br><br>The AC power on server %HOSTNAME% has been restored. The shutdown procedure was cancelled.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME%: Low battery of the local UPS. | Dear user,<br><br>The battery of the local UPS is going to be depleted.<br>Server %HOSTNAME% will be shut down immediately.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The local UPS of server %HOSTNAME% is overloaded. | Dear user,<br><br>The local UPS of server %HOSTNAME% is overloaded.<br>If this situation goes on, server %HOSTNAME% will be shut down after the time specified on [Toolkit/UPS Management].<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | AC power has been restored. UPS already powered on server %HOSTNAME% automatically. | Dear user,<br><br>AC power has been restored. UPS already powered on server %HOSTNAME% automatically.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | UPS warning! The server %HOSTNAME% will not shut down automatically. | Dear user,<br><br>When booting up the NAS server, the UPS monitor daemon detects abnormal status on the UPS. The server %HOSTNAME% won't shut down automatically. It's recommended to reconfigure the UPS settings on [Toolkit/UPS Management] |

| | | |
|---|---|---|
| | | after the<br>UPS becomes normal or manually shutdown the server immediately.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | New disk %DISK_ID% on %HOSTNAME% is detected | Dear user,<br><br>New disk %DISK_ID% on %HOSTNAME% has been detected and added to the system.<br>Use Server Information on the following site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Disk %DISK_ID% on %HOSTNAME% has been added. | Dear user,<br><br>Disk %DISK_ID% on %HOSTNAME% has been added.<br>Use Server Information on the following site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Adding of disk %DISK_ID% on %HOSTNAME% has failed | Dear user,<br><br>Adding of disk %DISK_ID% on %HOSTNAME% has failed<br>Use Server Information on the following site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Disk %DISK_ID% on %HOSTNAME% is initializing. | Dear user,<br><br>Disk %DISK_ID% on %HOSTNAME% is initializing.<br>Use Server Information on the following site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Disk %DISK_ID% on %HOSTNAME% has been removed | Dear user,<br><br>Disk %DISK_ID% on %HOSTNAME% has been removed<br>Please confirm and replace with a new disk.<br>Use Server Information on the following |

| | | |
|---|---|---|
| | | site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Disk %DISK_ID% on %HOSTNAME% is rebuilding | Dear user,<br><br>Disk %DISK_ID% on %HOSTNAME% is rebuilding.<br>Use Server Information on the following site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Disk %DISK_ID% on %HOSTNAME% has been rebuilt. | Dear user,<br><br>Disk %DISK_ID% on %HOSTNAME% has been rebuilt.<br>Use Server Information on the following site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Rebuilding of disk %DISK_ID% on %HOSTNAME% has failed | Dear user,<br><br>Rebuilding of disk %DISK_ID% on %HOSTNAME% has failed<br>Use Server Information on the following site to check the system status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Disk %DISK_ID% on %HOSTNAME% is defective | Dear user,<br><br>Disk %DISK_ID% on %HOSTNAME% is defective.<br>Please tend to the problem and replace the disk.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Hard disk %DISK_ID% on %HOSTNAME% is working properly from an I/O error. | Dear user,<br><br>Hard disk %DISK_ID% on %HOSTNAME% had an I/O error, but it is working properly now after server retrials. If this existing event remains, find out the cause as soon as possible or replace the hard disk.<br><br>Sincerely, |

| | | |
|---|---|---|
| | | %COMPANY_NAME% |
| Administrator | Hard disk %DISK_ID% on %HOSTNAME% has an I/O error. | Dear user,<br><br>Hard dis k %DISK_ID% on %HOSTNAME% has an I/O error. This hard disk might have bad sectors on it. Please replace the hard disk as soon as possible. Use Server Information on the following link to check the system status: %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Initialization of disk %DISK_ID% on %HOSTNAME% has failed. | Dear user,<br><br>The initialization of disk %DISK_ID% on %HOSTNAME% has failed. It could result from a damaged disk or an empty tray.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The space of Volume %VERSION% on %HOSTNAME% is reaching its limit | Dear user,<br><br>The space of Volume %VERSION% on %HOSTNAME% is reaching its limit. Please remove unnecessary files or add more disk capacity.<br><br>Please reserve at least 10 MB space on Volume %VERSION% for normal system operations,<br>otherwise the system will not be able to run properly.<br><br>Volume %VERSION% Total capacity: %DISK_SIZE% GB<br>Remaining capacity: %FREE_SPACE% GB (%USAGE%%)<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: Insufficient space on the newly added No. %DISK_ID% hard disk | Dear User,<br><br>The space on the newly added No. %DISK_ID% hard disk on %HOSTNAME% is insufficient to replace the used space of the removed hard disk on the same domain. This<br>could result in failure in automatic data rebuilding for RAID1, RAID5 or RAID5+spare<br>volumes. Should this situation occur, please go to the "Volume Management" |

| | | |
|---|---|---|
| | | page<br>through the following link to rebuild the data with repair option:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Disk %DISK_ID% on %HOSTNAME% has bad sectors. | Dear user,<br><br>Disk %DISK_ID% on %HOSTNAME% has bad sectors.<br>Please replace the disk on the proper time.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The system partition of the hard disk %DISK_ID% on %HOSTNAME% is defective. | Dear user,<br><br>The system partition of the hard disk %DISK_ID% on %HOSTNAME%<br>is defective, and the server may not be able to run properly.<br>Please replace the hard disk immediately.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Hard disk [HD %DISK_ID%] on %HOSTNAME% has new bad sectors | Dear user,<br><br>Hard disk [HD %DISK_ID%] on %HOSTNAME% has new bad sectors.<br>The details are as below:<br><br>System drive: %BSR_1%(used), %BSR_MAX_1%(total), %BSR_USAGE_1%%(usage)<br>Swap drive: %BSR_2%(used), %BSR_MAX_2%(total), %BSR_USAGE_2%%(usage)<br>Data drive: %BSR_3%(used), %BSR_MAX_3%(total), %BSR_USAGE_3%%(usage)<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Hard disk [HD %DISK_ID%] on %HOSTNAME% has new bad sectors | Dear user,<br><br>Hard disk [HD %DISK_ID%] on %HOSTNAME% has new bad sectors.<br>The details are as below:<br><br>System drive: %BSR_1%(used), %BSR_MAX_1%(total), %BSR_USAGE_1%%(usage)<br>Swap drive: %BSR_2%(used), %BSR_MAX_2%(total), |

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| | | %BSR_USAGE_2%%(usage)<br>Data drive: %BSR_3%(used),<br>%BSR_MAX_3%(total),<br>%BSR_USAGE_3%%(usage)<br><br>Warning: Bad sector usage of at least one drive on the hard disk [HD %DISK_ID%] exceeds 80%.<br>Please replace the hard disk with a new one as soon as possible.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Volume %VOL_ID% on %HOSTNAME% cannot complete RAID building. | Dear user,<br><br>Volume %VOL_ID% on %HOSTNAME% cannot complete RAID building.<br>Use [Server Information->System log->Storage manager log] and [Volume Management] on the following site to check the volume status: %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Volume %VOL_ID% on %HOSTNAME% is crashed. | Dear user,<br><br>The volume %VOL_ID% on %HOSTNAME% is crashed. If there is any home folder located on this crashed volume, all data in the home folder(s) will be lost, but the location of the home folder(s) will be automatically moved to the next available volume. If there is no any other available volume, the user(s) will not have home folder(s) any more and will be moved from "users" group to "guests" group automatically.<br><br>Use [Volume Management] on the following site to check the volume status: %HTTP_URL%, or [Home Setup] to check the users' home folder status.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Volume %VOL_ID% on %HOSTNAME% is degraded. | Dear user,<br><br>The volume %VOL_ID% on %HOSTNAME% is degraded.<br>Use [Volume Management] on the following site to check the volume status: %HTTP_URL%<br><br>Sincerely, |

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| | | %COMPANY_NAME% |
| Administrator | Volume %VOL_ID% on %HOSTNAME% is rebuilding. | Dear user,<br><br>The volume %VOL_ID% on %HOSTNAME% is rebuilding.<br>Use [Volume Management] on the following site to check the volume status: %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Volume %VOL_ID% on %HOSTNAME% is in normal working condition. | Dear user,<br><br>The volume %VOL_ID% on %HOSTNAME% is in normal working condition<br>Use [Volume Management] on the following site to check the volume status: %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The spare space of volume %VOL_ID% on %HOSTNAME% has been put online | Dear user,<br><br>Because part of volume %VOL_ID% on %HOSTNAME% is damaged.<br>The spare space of volume %VOL_ID% has been put online.<br>Use [Volume Management] on the following site to check the volume status: %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Volume %VOL_ID% on %HOSTNAME% is set as "crashed". | Dear User,<br><br>The volume %VOL_ID% on %HOSTNAME% failed to create RAID due to either disk failure or hot-swapping.<br>The system has set the status of this volume as "crashed".<br>Please go to [Volume Management] on the following site to check the volume status: %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The Volume %VOL_ID% on %HOSTNAME% needs to be repaired. | Dear user,<br><br>Because the parity building is not complete, Volume %VOL_ID% may have incorrect parities. To ensure the system's stability, all the services<br>on this volume are suspended. Please go to |

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| | | [Volume Management] on %HTTP_URL% to repair this volume manually, or you reboot the machine so that system will fix this volume automatically.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | File-System checking for Volume %VOL_ID% is successful. | Dear user,<br><br>File-System checking for Volume %VOL_ID% on %HOSTNAME% is successful.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | File-System checking for Volume %VOL_ID% is failed. | Dear user,<br><br>File-System checking for Volume %VOL_ID% on %HOSTNAME% is failed.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Volume %VOL_ID% on %HOSTNAME% has been successfully recreated. | Dear user,<br><br>Volume %VOL_ID% on %HOSTNAME% has been successfully recreated. Users' home folders originally located on this volume have also been recreated. Use [Volume Management] on the following site to check the volume status:<br>%HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Test Message from %HOSTNAME% | Dear user,<br><br>This is a test message sent by %HOSTNAME%.<br>Please use your browser to connect to %HTTP_URL% and continue to setup other configurations.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% is powered off | Dear user,<br><br>%HOSTNAME% is powered off.<br>Please confirm and power it up if necessary.<br><br>Sincerely, |

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| | | %COMPANY_NAME% |
| Administrator | Server %HOSTNAME% is shutting down | Hi %USER_NAME%,<br><br>Server %HOSTNAME% is shutting down.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Server %HOSTNAME% is restarting | Hi %USER_NAME%,<br><br>Server %HOSTNAME% is restarting.<br><br>Sincerely,<br>%COMPANY_NAME%<br><br><br>[SnapReportCreate]<br>Subject: Snapshot %VERNAME% on Volume %VOL_ID% was created on the server %HOSTNAME%.<br><br>Dear user,<br><br>The scheduled snapshot %VERNAME% on Volume %VOL_ID% was created.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% IP Reset complete | Dear user,<br><br>%HOSTNAME% has successfully reset its IP address.<br>You can now configure the IP address of %HOSTNAME%.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | The mail to %USER_NAME% is undelivered. | Dear user,<br><br>The mail to the user, %USER_NAME%, is undelivered.<br>Please check the user e-mail address.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% is updating the system. Access temporarily denied. | Dear user,<br><br>%HOSTNAME% is currently updating its system files.<br>This procedure will be complete in approximately 10 minutes.<br>During the update, access to the server is temporarily suspended.<br>Thank you. |

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| Administrator | %HOSTNAME% update complete | Sincerely,<br>%COMPANY_NAME%<br>Dear user,<br><br>%HOSTNAME% has successfully completed the system update at %TIME% on %DATE%.<br>The server has been restored to normal operation.<br>The latest version of the operating system is %MODEL% %VERSION%.<br>Thank you and good-bye!<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% update failed | Dear user,<br><br>An attempt to update %HOSTNAME% has failed. This may have one of the following possible reasons:<br><br>1. The specified update files are invalid or corrupted<br>2. The specified update files are older then the current ones<br>3. Some disks failed when updating<br><br>Please verify and try again.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% failed to synchronize with the network time server | Dear user,<br><br>%HOSTNAME% failed to synchronize with the network time server.<br><br>The possible reasons are:<br><br>1. Cannot resolve the host address.<br>2. The network time server does not exist.<br>3. The server is not a Network Time Protocol server.<br>4. The network time server is temporary unavailable.<br><br>Please verify and try again.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% Server backup error, error code %ERROR_CODE%. | Dear user,<br><br>An error occurred while backing up.<br><br>The error code is %ERROR_CODE%. |

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| | | Sincerely,<br>%COMPANY_NAME% |
| Administrator | Backup on the server %HOSTNAME% is complete, but the backup is incomplete | Dear user,<br><br>Backup on the server %HOSTNAME% is complete. However, some files are not properly backed up.<br>The error code is: %ERROR_CODE%.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% Server backup successfully. | Dear user,<br><br>The backup action is completed successfully.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% Server restoration error, error code %ERROR_CODE%. | Dear user,<br><br>The restore action has failed. Please check the error code.<br>The error code is %ERROR_CODE%.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME% Server restored successfully. | Dear user,<br><br>The restore action is completed successfully.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Please reboot machine to enable battery backed up memory. | Dear User,<br><br>The battery is functioning correctly, please reboot machine to enable battery backed up memo ry.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Please reboot machine to disable battery backed up memory. | Dear User,<br><br>Because the battery has failed, please reboot machine to disable battery backed up memory.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Snapshot version %VERNAME% of Volume %VOL_ID% was created on server | Dear user,<br><br>The scheduled snapshot on Volume |

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| | %HOSTNAME%. | %VOL_ID% was finished.<br>The newly created snapshot version is %VERNAME%.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Snapshot %VERSION% on Volume %VOL_ID% was created on the server %HOSTNAME%. | Dear user,<br><br>The scheduled snapshot %VERNAME% on Volume %VOL_ID% was created to replace the old version %VERNAME_REP%.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Failed to create the snapshot %VOL_ID% on Volume %VOL_ID% of the server %HOSTNAME%. | Dear user,<br><br>The server %HOSTNAME% failed to create the scheduled snapshot on Volume %VOL_ID%.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | Snapshot was disabled on Volume %VOL_ID% of server %HOSTNAME% due to insufficient disk space. | Dear user,<br><br>Due to insufficient disk space on Volume %VOL_ID%, snapshot was disabled automatically, and all snapshot versions on this volume have been removed.<br><br>Sincerely,<br>%COMPANY_NAME% |
| Administrator | %HOSTNAME%: Trial version has expired. | Dear user,<br><br>The trial version has expired.<br>All shared folders are temporarily locked.<br>Please upgrade to the official release.<br><br>Sincerely,<br>%COMPANY_NAME% |
| NormalUser | Welcome %USER_NAME% on server %HOSTNAME% | Hi %USER_NAME%,<br><br>Welcome to %HOSTNAME%!<br>Use the Network Neighborhood to access \\%HOSTNAME%, or simply point your browser to %HTTP_URL% to modify your personal profile.<br><br>Your account: '%USER_NAME%'<br>Your full name: '%FULL_NAME%'<br>Your password: '%PASSWD%'<br>Disk quota on each volume: %QUOTA%<br><br>Sincerely, |

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| | | %COMPANY_NAME% |
| NormalUser | The profile of %OLD_USER_NAME% on %HOSTNAME% has been modified. | Hi %OLD_USER_NAME%,<br><br>Your personal profile on %HOSTNAME% has been modified as follows:<br><br>Your account: '%USER_NAME%'<br>Your full name: '%FULL_NAME%'<br>Your password: '%PASSWD%'<br><br>Sincerely,<br>%COMPANY_NAME% |
| NormalUser | %OLD_HOSTNAME% has been renamed | Hi %USER_NAME%,<br><br>The server originally called %OLD_HOSTNAME% has been renamed to %HOSTNAME%.<br>Please use the Network Neighborhood to access \\%HOSTNAME% .<br>To change your personal profile, point your browser to %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| NormalUser | The IP address of %HOSTNAME% has been changed | Hi %USER_NAME%,<br><br>The IP address of %HOSTNAME% has been changed to: %IP_ADDR%<br>To change your personal profile, point your browser to %HTTP_URL%<br><br>Sincerely,<br>%COMPANY_NAME% |
| NormalUser | Disk quota for %USER_NAME% on %HOSTNAME% is reaching its limit | Hi %USER_NAME%,<br><br>You disk quota on %HOSTNAME% is almost used up.<br>Please delete unneeded data, or contact the system administrator to increase your disk quota.<br><br>Allocated disk quota: %DISK_SIZE%<br>Available disk quota: %FREE_SPACE% (%USAGE%%)<br><br>Sincerely,<br>%COMPANY_NAME% |
| NormalUser | %HOSTNAME% will be %ACTION% in %DELAYTIME% minutes | Hi %USER_NAME%,<br><br>Server %HOSTNAME% will be %ACTION% in %DELAYTIME% minutes. Please save any current jobs you're working on as soon as possible. |

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| | | Sincerely,<br>%COMPANY_NAME% |

# Appendix 8. System Default Configuration

| **Server properties** | | |
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| Sever Date ad Time | Pacific time zone | |
| Server Failure Notification | Server sends test e-mail | |
| **Storage Manager** Language | Browser default language | |
| Event notification email language | The same as **Storage Manager** language | |
| Encoding for clients | The same as **Storage Manager** language | |
| System administrator (root) password | - | |
| **Network Settings** | | |
| TCP/IP | DHCP | On<br>If your network does not include a DHCP server, you must manually configure the IP address. |
| Network card setup | First network card<br>Network cards other than the first one | On<br>Off |
| Windows Network | Enable Windows networking | On |
| | Default Workgroup | WORKGROUP |
| Apple Network | Enable Connections Over TCP/IP<br>Enable Connections Over AppleTalk | On<br>On |
| UNIX Networking | Enable NFS networking | On |
| Internet Network | Automatically browse Storage Manager with HTTPS | Off |
| | FTP service | Off |
| | Telnet service | Off |
| **Security Settings** | | |
| Users | root | Predefined administration user; member of the ADMINS and USERS group; no password assigned. The default quota for *root* is unrestricted. Cannot have a home folder |

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| Default Settings for Newly Created Account | guest | No password assigned; provides a default identity to all users who fail to authenticate. Cannot have a home folder (To disable this feature, assign it a password.) The default quota for *guest* is unrestricted. |
| | Default Group | Users |
| | Default Quota | 100 MB |
| | Default user home location | Volume1 |
| Maximum Accounts | 20,480 | Including local user accounts, Windows domain accounts,, and UNIX NIS domain accounts. |
| User Groups | Admins | Predefined group with special privileges; only ADMINS members can configure the server. *Root* is a member of this group by default. |
| | Users | Each member of this group can see his own folder named after his account and other folders to which he has access privileges in the Network Neighborhood. *root* is a member of this group by default. |
| | Guests | Unlike the members of the group *users*, *guests* will not see their folder in the Windows Network Neighborhood. They will however have access to the public folders on the NAS server. The account *guest* is a member of this group by default. |
| Maximum Groups | 1,024 | Including local groups, Windows domain groups, and groups on the NIS server. |
| Shared Folders | publ*cn* | This shared folder resides in the directory /volume*n*/publi*cn*. All users on the LAN can use this shared folder, they have full read and write access. |
| Default Settings for Newly Created Folder | NFS exported as | writeable |
| | Privilege for everyone | writeable |
| | Default group | users |
| | Default quota | 100 MB |
| | Default newly created shared folder location | Volume1 |
| | Default access right of shared folder | Windows compatible |

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| Maximum Shared Folders | 64 (Does not include users' home folders) | Excluding the home folders of users group accounts. |
| Maximum ACL entries for a single file/folder | 1,024 | |
| **Volume Management** | | |
| One hard disk in the first-time installation | Simple volume (volume1) | |
| Two hard disks in the first-time installation | RAID 1 volume (volume1) | |
| Three hard disks or above in the first-time installation | RAID 5 volume (volume1) | |
| Cache setup | Disk write cache support | On |
| | RAID 5 cache support | Off |
| **Naming Convention** | | |
| Server Name | Case insensitive<br>15 characters<br>May consist of letters, numbers, underscores, and minus signs<br>The first character must be a letter | |
| Account Name | Account name is not case sensitive. It can be up to 64 characters except for the following characters:<br>! " # $ % ' ( ) * + , / : ; < = > ? @ [ ] \ ^ ` { } \| ~<br>Besides, the first character can not be minus sign and space, and the last character can not be space. | |
| Password | The password is case sensitive, and up to 12 displayable characters can be entered, including letters, numbers, signs, and space, etc. However, the password of root can not be empty. | |
| Shared Folder Name | Shared folder name is not case sensitive. It can be up to 15 characters except for the following characters:<br>! " # $ % ' ( ) * + , / : ; < = > ? @ [ ] \ ^ ` { } \| ~!<br>Besides, the first character can not be minus sign,! and space and the last character can not be space. | |
| Group Name | Group name is not case sensitive. It can be up to 15 characters except for the following characters:<br>! " # $ % ' ( ) * + , / : ; < = > ? @ [ ] \ ^ ` { } \| ~<br>Besides, the first character can not be minus sign and space, and the last character can not be spaces. | |
| **Toolkit Settings** | | |

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| SNMP Configuration | Enable SNMP access<br>System location | On<br>Unknown |
| UPS Management | Do not have UPS<br>Probing Interval<br>Delayed before shutdown | On<br>20 seconds<br>3 minutes |